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PREPARATION OF TEACHERS FOR SECONDARY SCHOOLS

THIS is a hackneyed subject. In accordance, however, with the ever-fruitful laws of agitation, it must be discussed and re-discussed, until the men and women who are about to enter upon a profession whose responsibilities are incalculable and whose duties link us to the Great Teacher, shall study much and hesitate long before they pronounce themselves ready for the great work.

You have listened to the profundity of thought, the psychological laws of training, and the pedagogical arguments from a college president, a university dean, and a normal school principal, until there is little for a humble practical secondary educator to add without traversing the fields which have been so carefully gleaned. I bring you, therefore, no learned disquisition, no studied thesis, no exhaustive treatment of an exhaustless subject, but only a few homely truths, written in a hurried, homely way amid the wearing and worrying cares of an office which entails the supervision of fourteen high schools, over eight thousand pupils, and more than two hundred and fifty teachers.

One of the divisions of this subject which is attracting much attention, provoking much dissension, and bringing into view a startling array of statistics, is the ratio of women to men in the public schools of the United States. While this discussion per-

tains with special significance to the common schools, it is a factor which cannot be eliminated in the solution of the high school problem, and enters with irritating effect into our reflections as to the quantity and quality of those credentials, physical, intellectual and moral, which the welfare of our secondary schools demands of every teacher.

The storm-center recently has been in Chicago, resulting from a disturbance of the elements in the arraignment of the public schools in an eloquent post-prandial speech by His Reverence, the eminent Bishop Spaulding, of Peoria. He said, in substance: "Women are employed almost exclusively in our public schools, because their services are cheap," and added that the same motive would justify us in employing convicts as a still more frugal method of securing teachers. It was an unhappy illustration, and brought down upon the head of the distinguished and eloquent celibate the imprecations of nearly four thousand women teachers of Chicago.

Without any argument as to the difference in the qualifications (which I conceive to be radical and fundamental) between men and women as teachers in our secondary schools, is not the statement of the bishop absolutely correct, when we get down to the final analysis of the motive which prompts the employment of such an abnormal ratio of women in our schools?

It is a maxim in all other kinds of business that the best is the cheapest, but in securing teachers, boards of education seek to be justified in reversing this truth, and making the cheapest the best. Go where you will you hear it said, "we need more men, but we cannot offer the salaries they demand. We do not blame them for refusing to accept our small stipend, and therefore we are compelled to employ women." This is a true statement, and as sad, as degenerating, and as degrading as it is true, and therefore ought not the sex, which represents the pathos, the purity, the piety of this world, through whose nurturing influence the flowers of hope are made to bloom perennial in the garden of the heart, whose solace is a surcease of sorrow, and whose soul, instinct with the love of maternity goes out toward

childhood, to mould it through sympathy as does no other influence save the directly divine—ought not, I say, the sex to combine in their majestic potency to make this statement a libel rather than a truth?

You have doubtless seen in the series of articles now being written for *Harper's Weekly*, that in Massachusetts, of all its public school teachers 90.5 per cent. are women and only 9.5 per cent. are men. In Illinois 71.3 per cent. are women and 28.7 per cent. are men, and in your own state of Michigan 78.4 are women and 21.6 per cent. are men, while the average salary of men in Massachusetts is $118 a month and of women $48; in Illinois, men $56, women $46, and in Michigan, men $47 and women $33. I am one of those who believe that the same work performed with the same skill, and producing the same beneficent results should receive the same pay. I also believe that at present there are more men than women thoroughly well qualified to teach in our secondary schools, and that therefore the large ratio of women to men in these schools militates greatly against the quality of the work they ought to turn out, as the crown of our public school education and as fitting schools for colleges. To this extravagant and unfortunate disproportion of women to men among the teachers of our secondary schools, is due, in some measure at least, the lamentable fact that in our public high schools 75 per cent. of the pupils are girls, and that 75 per cent. of the boys preparing for college attend the private fitting schools where the male influence largely predominates.

Do not misunderstand me; I believe in the higher, the highest education of women. I am in hearty accord with her purpose and ambition to enter all the professions, all the trades, all the departments of industry. She is entitled to the right of way along every avenue where moral character is to be moulded, intellect developed or support secured. I only insist, and I believe my position is sustained by the divine will, by the logic of nature, and by the necessities of the age, that a parity of number shall be maintained in our high schools, that where education, experience and ability are alike, there shall be as many men as

women employed, and that there shall be no discrimination of salary based upon sex.

In view of these opinions, and in support of this position, it may be interesting to you to know that exclusive of the special studies as Drawing, Music, Physical Culture, French and German, and not including principals, there are employed in the high schools of Chicago eighty-eight men and eighty-six women, and including all departments, all studies and all teachers except the principals, there are a total of two hundred and sixty-one (261) of whom 127 are men and 134 women—and that Chicago among the large cities of the United States is entitled to the proud distinction of making no discrimination of sex whatever in fixing the salaries of the teachers in her high schools.[1]

With this principle established throughout the country, this vexed question of salary dependent upon sex disposed of, we can approach the main question of the qualifications of secondary teachers in a broader spirit and with an eye single to the one thought of obtaining the best talent the market affords.

It is a trite saying that education is a primal qualification for those who would mould the pliant mind of childhood, and shape it into a character that shall bless the world by its influence, but education is a term which in our time is too loosely defined.

I have great respect for specialists who fill the measure of their days in investigation and research, seeking after and delving into the hidden things in the universe of God's thought, in the realm of nature. I honor the philosopher who spent his life upon the Greek Article, and in dying sighed that he had not given his years to the Dative case, but I would not employ him as a teacher of Elementary Greek in our secondary schools. We look to the laboratory and the cloister for those revelations which revolutionize scientific thought, and present to us the origin and development of psychical entities; we bow in silent awe before those who discourse with such eloquent and unlimited

[1] See statistics compiled by Superintendent Nightingale, together with replies to pertinent questions upon this subject of "Ratio of men to women" in the high schools on pages 86–98 of the February number.

verbiage about child study and the concentration, correlation and and coördination of the various branches of learning, but the student who gives his life to the laboratory, and the teacher who stands before the living child are two different individuals. The physicist and chemist who teach our youth should sit not only at the feet of Helmholtz and Leibintz, of Faraday and Thompson, but at the feet of Homer and Dante and Shakespeare as well. The classicist who unfolds the beauties of Cicero and Homer should also be well-tutored in mathematics and science. Our colleges differentiate too early. Candidates for positions in our secondary schools should not commence a university course at their entrance to college.

I desire to make a plea for broad culture, symmetrical training, an all-around education in language, mathematics, science, and history, and for a persistent and never-ceasing study of English classics and English literature. For as President Eliot says, "The power to rightly understand, to critically use the mother tongue, is the consummate flower of all education." I believe in departmental work in our secondary schools as in our colleges, but the spire should be built on the top of a finished building, resting on solid foundations. One, then, who gives all his college life to a single subject, pursuing besides only those studies which are intimately collateral, may be giving full rein to a marvelous genius, and preparing himself to become a benefactor, in the discovery of some secrets in the physical or psychical world, which shall ameliorate the condition of humanity and hasten the millennium, but such a person deserves no place as a teacher of youth in our secondary schools. The education of a teacher should be first general, then special. I have seen it written, "All art seeks the highest form of expression for what it creates. The cathedral is the highest expression of art in architecture; the oratorio and symphony in music, poetry in literature and eloquence in oratory. As the human soul is God's expression of what is greatest in man, so that is the greatest of the fine arts which shall express the most of man's greatness. Knowledge in all its forms, is the marble in the quarry, or dragged

up on sledges a little away from the primeval mud. Literature is the subsequent statue, full of grace and snow-white in purity. Language then as the gateway to the soul's highest expression is the center about which all studies correlate." I would make language then, ancient, modern, foreign, native, the basic study for all who would become successful teachers. Upon these foundations laid deep and strong, I would build a superstructure, scientific in character, mathematical in correctness, historical in breadth, and upon this building poetical in its symmetry, beautiful in its proportions, richly plain and plainly perfect in all its inner furnishings, there should rise some magnificent turret, original in design and typical of a special genius, which shall tell to all around its exact location and for what it is specifically adapted.

The very minimum of preparation in scholarship should be a college education; an education general in character, removed at least four years from high school training; and where circumstances may permit I would add one year of resident graduate work along specific lines, and two years of study and travel abroad.

This education, however, to the real student, to the scholarly scholar, will be but a beginning of those intellectual possessions which shall be easily and delightfully acquired as the years unfold; but one who, having secured the meager discipline of a high school, attempts to acquire the knowledge and power sufficient for a secondary teacher, through university extension circles, Chautauqua courses, summer schools, normal schools and private study, will ignominiously fail to secure that kind of scholarship which the needs of our secondary schools demand.

The real teacher will always be a student. He will not spend his years in riotous living, his evenings in social pleasures, nor his leisure in flattering his own conceit by writing books for an already congested market. He will be furnished with an ever increasing library of his own, he will be a patron of the public library if one is at hand; he will be a social power in the community where he lives, the inspirational center of every lit-

erary circle, and more than a Delphian oracle to all the young people around him.

But, "pity 'tis, 'tis true," intellectual attainment, education, is only one of the essential elements of a teacher's equipment. You may call it the headstone of the corner if you please, but the headstone of the corner is only a small part of a great structure.

Much, I shrink from thinking how much, depends upon the temperament of the teacher. Many a school has been ruined, many a pupil's life has been spoiled, and the current of his activities turned into wrong channels, by some teacher, whose words, sharper than a serpent's tooth, have produced irremediable wounds. A dyspeptic, the victim of a disordered stomach, who enters the schoolroom under the influence of "an undigested bit of beef, a blot of mustard, a crumb of cheese, a fragment of an undone potato," is a maniac, and a patient public should insist upon his retirement. A cross, peevish, nervous, sarcastic, wizen-souled, torpid-livered man or woman has no business with the profession of teaching. To be a teacher, a guide, a trainer, a safe counselor of youth, one must be a paragon of kindness, patience and love; not a kindness that encourages disorder, not a patience that brooks an insult, not a love that borders on maudlin sentimentality, but a kindness, patience, love that are divinely given, divinely developed; these virtues, these graces, should be so enthroned in the mirror of the soul, so interwoven into one's intellectual attainments, that a company of youth sitting day by day under the benignant influence of such a character, would be moulded into such a oneness of industry, ambition and appreciation, that the memory of that teacher would forever be the Mecca of their deepest gratitude. While a pupil bright, industrious, keen in perception, quick in adaptation, appreciative, thoughtful, excites our admiration and tempts our best attention, it is rather the dull pupil, whose hereditary possessions are few, but whose application is diligent; and the indolent pupil, who has genius for all work but study, and has never yet felt the touch of a master hand upon his sleeping

talent; and the mischievous pupil, who is in a constant state of natural ebullition and whose intellectual fermentations find vent in most inopportune times, that call forth our highest talents, and test our real ability. These are the pupils that try our patience, and exhaust our kindness, and yet these are the pupils whose welfare demands the richest products of a most serene temper, and who will not brook either acrid words or an attitude of indifference, and the teacher will become the true teacher only as he secures the respect, wins the confidence and gains the absolute affection of the dull, the indolent and the mischievous, and these will only come as a result of an exhibition of patience and kindness which is only second to scholarship in a teacher's equipment.

The silent influences of nature are stupendous in their results. We see them in the blade of grass, the unfolding leaf, the bursting blossom. They are everywhere present, night and day, noiseless yet nurturing, producing all that is beautiful, and sad to say, all that is baneful. In the very breeze that fans us as we walk the streets may lurk the bacteria of disease as well as of health. It is equally true and equally demonstrable, and without the aid of a microscope, that every person carries with him an atmosphere of good or evil, and far more eloquent and infinitely more impressive than all his precepts and all his professions, is the silent influence of his daily example. Personal appearance then bears no insignificant relation to a well-appointed teacher. I do not refer to beauty of face, for sometimes upon the homeliest features there sit those qualities of soul that transfigure the person until "his face shall shine as the sun and his raiment be as white as the light." I refer rather to that personal appearance that manifests itself in tidiness of person, in neatness of dress, in grace of posture, in correctness of gait, in civility of manner, and in all those graces and amenities, whose silent influence will metamorphose character, and establish right habits in those who are to us as clay in the hands of the potter—but a teacher, I care not if his scholarship approaches perfection, who is careless of his personal appearance, slovenly in his dress, awk-

ward in his gait, boorish in his manners, whose taste for the graceful and the beautiful has not been developed, and who forgets that the way he sits and stands and walks, the way he dresses and addresses, is having a silent and incalculable influence upon the character, life and destiny of all his pupils, is not fit to be in the schoolroom. It is no place for cranks and dudes, for people of eccentricities and idiosyncrasies who take more pride in being unique and peculiar than in being civil and gracious. When one's instruction is such as to inspire confidence, then his every attitude will provoke imitation, so that the better the instructor, the more important is it that his personal appearance, his manners, his dress, his conversation, his every movement shall reflect the Christian gentleman.

Time permits me to speak of but one more essential characteristic of the real teacher, a gentle, well-trained, cultivated, mellow, musical voice, a voice so attuned to pleasing harmony as to attract the listless, stir the ambitious, inspire the thoughtful. A harsh, rasping, shrieking voice, the mouthing of one's words, carelessness and lawlessness of utterance are faults so glaring that their toleration is a constant surprise. There is no sense so acute as that of hearing, and it is through the ear rather than the eye that pupils learn the form and use of words. Poor spelling, the absurd application of technical terms, and the strange answers to questions set for an examination are often more the fault of the teacher than the pupil.

A distinct articulation, a clear enunciation, a proper pronunciation, the taking off of one's hat in respectful courtesy to every English word and to every syllable of that word is an all-important culture to one who would be an exemplar of the English language before his pupils. The reading of the English classics in our high schools is something abominable.

In our intense anxiety to teach literature we have abandoned all attention to voice culture, and while I would not sacrifice thought to utterance, they are to my mind inseparable when one is reading aloud. I am not arguing for elocution in its vicious sense, not for Delsarte in its excessive forms, but do I

contend that we shall not be able to cultivate a literary sense in our pupils, unless we are able to read literature with a full application of its emotional feeling, and awaken in our pupils such an appreciation of the style as well as the content, that they will be aroused to cultivate the ability to differentiate between the pathetic and the humorous, the didactic and the descriptive, in vocal expression as well as in thought comprehension, and not read the "One Hoss Shay" the "Sermon on the Mount," "The Death of Paul Dombey," and "Rienzi to the Romans," all in the same tone, with no stirring of the passions and no change of the features. This is all out of nature. The young woman standing at the bedside of a dying mother, the young man, with all his nerves at full tension contending on the football ground, will each show, in the play of every feature, emotions befitting the occasion, and it is quite unpardonable that in our high schools where there should be the freest exercise of the organs of the voice to insure not only good tone, but a healthy development of other physical functions, the natural should be so subordinated to the artificial, that we are forced sometimes to say that pupils seem to make progress in spite of their teachers

In this honest but homely way I have presented some of the qualifications which I deem essential for those who would enter the profession of secondary teaching. Have I overdrawn the picture? Have I exaggerated the conditions? Do I exalt too highly the teacher as an exemplar of physical health, mental acumen, moral power? Can we be too erudite as those who are to guide, direct, control the mental trend, fashion the moral habits and shape the destiny of the youth of this generation? If, as Emerson says, "the true test of civilization is not the census, nor the size of cities, nor the crops, but the kind of man the country turns out," then as men and women largely responsible for this civilization, we cannot have our voices too thoroughly trained, we cannot be too careful of our personal appearance, we cannot have our morals and manners, and our relations to society, too nicely defined, we cannot cultivate too even a temper in all our methods of discipline, we

cannot enter the profession with a scholarship too rich, ripe and rare, nor improve upon it in our experience with too much reading, reflection and study. With all our faculties thus fully and ornately developed, we shall not only reap the reward for our diligence, and succeed as teachers in every present position, but we shall constantly hear from an appreciative public the welcome summons — "Come up higher."[1]

A. F. NIGHTINGALE

CHICAGO

[1] This paper was originally presented at the meeting of the Michigan Schoolmasters Club, Ann Arbor, November 1895.

THE RENAISSANCE AND THE SCHOOL, 1440–1580

I.

THE Renaissance, or the Revival of Letters, is the name by which we distinguish the period which saw the revolt of the intellect of Europe against Mediævalism. It has correctly enough been called a "Humanistic" revival; but the word "Humanistic," if it is to be a true designation, must be interpreted broadly.

The revival was inevitable from the day on which the intellect of Europe had built for itself a house to live in, and put on the roof, and made fast the doors. Thought on moral and religious questions had on certain lines exhausted itself and been rounded off, after having been organized into a system, provided with administrators and guarded by penalties. Of the Church Secular, the Church Monastic, and the Church Political this is true. Nay, of the Universities, presumed to be the centers of a living intellectual activity—the mind of Europe—it was also substantially true, from the day St. Thomas Aquinas died in 1274. The disputations which gave zest to Academic life contained, many of them, grave issues; but they were all within certain recognized authoritative lines. And even where they stirred questions that might have called forth answers fatal to the prevalent theological system, these were constantly discussed as matters purely intellectual, which, however they might be settled in the dialectical arena, could not disturb the dogmas of Faith. Even after the revival was in full swing, doctors had, not seldom, one opinion for philosophic schools, another for the Church and the world outside. They were scarcely honest, as we now count honesty: but intellectual honesty is in these days a cheap virtue; and yet, spite of this, a good many think it even now, too dear at the price to be paid for it.

The House which mediæval subtilty, faith and administrative

genius had built for itself, was, because of its very completeness, a prison. Perhaps it may safely be said that there is no possible organized system of thought and life, which could sustain for long its despotism over the mind of man. Reason is in its essence free, and will always react against uniformity of opinion and custom; of this I think we may be assured. The joy bells that announce the laying of the last stone of a temple, announce at the same time the beginning of its decay.

Any rebirth of the free human spirit runs in two main streams, which have a common source, and that common source is simply Reason itself as a free, and even rebellious, activity. These two streams are Art and Religion, or—if we may put it otherwise—that Life in the seen, which yields joy; and Duty to the Unseen, which, while inspiring awe, gives repose by bringing the finite spirit of man into harmonious relations with the universe and its moral order.

Thus, in the 14th century we see living, Dante, Petrarch, Chaucer, and also Wykliffe and Huss. The old organization of religious thought was, as yet, too powerful for those who sympathized with the latter; but it was only the state of Europe which prevented an unbroken continuity in the new literary or humanistic life inaugurated by the former, and first represented by these great names. Not that the Humanistic stream was ever dried up. Men kept going to Italy to drink of it. But there certainly was an interval of comparative quiescence after the death of Petrarch in 1374. Until the discovery of the art of printing about 1450, it was manifestly impossible that any great new movement could be popularized. The first Revival, accordingly, had no succession, except among the learned few. The seeds of the second revival were, however, sown. And their subsequent growth was largely due to the invention of printing.

The difficulties by which the diffusion of learning was beset may be gathered from the historians of the period. Even of the time after the invention of printing, when books were yet scarce, Hallam (Literature of Europe, Chap. IV, § 2, 31) says: "The process of learning without books was tedious and diffi-

cult, but not impracticable for the diligent. The teacher provided himself with a lexicon which was in common use among his pupils and with one of the grammars (he is referring to the teaching of Greek) published on the Continent, from which he gave oral lectures, and portions of which were transcribed by each student. The books read in the lecture-room were probably copied out in the same manner, the abbreviations giving some facility to a cursive hand; and thus the deficiency of impressions was in some degree supplied, just as before the invention of printing. The labor of acquiring knowledge strengthened, as it always does, the memory; it excited an industry which surmounted every obstacle, and yielded to no fatigue; and we may thus account for that copiousness of verbal learning which sometimes astonishes us in the scholars in the 16th century, and in which they seem to surpass the more exact philologers of later ages."[1] Unquestionably learning without books had its advantages, but without the cheapening of the art of printing neither learning nor education could ever have been widespread.

In seeking for an expression of Life and Art, the more advanced spirits were naturally drawn to what was ready-made, but had been forgotten. Latin literature and the study of Greek accordingly were the two great occupations of the Humanists. Although these pursuits received an immense impulse after the dispersion of Greek scholars in 1453, on the taking of Constantinople (just as Greek studies received a powerful impulse at Rome after the fall of Corinth), the rise and progress of the Humanistic movement were not determined by that event. And yet we may fairly date a second revival from the fall of the eastern capital, a revival which, for 100 years, occupied itself with Hellenic and Roman literature, before the slowly-growing vernacular and original literatures of Europe began to take form, and gradually to oust the ancients from exclusive possession. Art in painting and architecture all along shared in the general activity, and in many

[1] In connection with this see a very interesting passage in *Plato's Phædras. Iowett's Plato*, I., 613.

other ways the mediæval fabric had the hand of the critic and reformer laid on it.

The other great stream of the re-birth anticipated by Wykliffe and Huss whom I have named above, was the Religious. Here, too, man longed to see through form and dogma and ritual into realities. The Humanistic movement was thus closely allied with the Theological. We find this longing for "reality" in divine things, as opposed to mere dogmatic form, in the Mystics, and in such men as Wessel of whom both Erasmus and Luther speak in laudatory terms. But prior to him, Florentius Radewin, with the consent of his master, Gerard Groote, had founded the "Brothers of the Common Life" (Hieronymians), whose governing idea was life rather than doctrine, and who allied their religious aims with humanistic study. Florentius died in 1400, Wessel in 1489, and Thomas à Kempis in 1471. Up to the year 1500, though there was a strong Pagan and unbelieving spirit among the Humanists of Italy, we find little or none of this among the Northern men. With them, Humanism and a reformed Theology based on the original Gospels went hand in hand. There was no separation of the Humanistic and the reformed religious movements; nor was it ever recognized that there was any necessary antagonism. The houses and schools of the "brethern of the common life" spread throughout the Netherlands, Germany and France. The central motive-force was a religious one — an attempt to return to a simple New Testament life, and to rest faith on a vernacular Bible accessible to all. They had, as I have said, a tendency to Mysticism. They were in fact Mystics, in so far as subjective feeling and an intense personal life arising out of this, governed their Christianity. It was natural that such men should think more of the education of the mass of the people than dogmatists, schoolmen, or the literary humanists could be expected to do. They welcomed Humanistic learning, but always as subordinate to the religious life, and for a time, only in the restricted form of classical Latin and the literature of the Romans. They were called, as I have said, Hieronymians, and were succeeded in a higher and

sterner form by the great reformers. Even in the struggles of the Reformation period, we find in Luther [d. 1546] and Melanchthon [d. 1560], the Humanistic and the Theological in perfect harmony. It has been usual to regard the more literary Erasmus, because he disapproved of some of Luther's methods and of his doctrine of Justification by Faith, as a kind of literary sceptic, like the Italians. This accusation, it seems to me, is no more true of him than of Colet and Sir Thomas More. They represented what in this century has been called evangelical Broad-Churchism, and worked in the genuine spirit of Protestantism. Their moderation does not detract from their earnestness.

The old order soon took alarm and quickly gathered together its forces. With the help of the Jesuits, the mediæval Church made great way in recovering its hold on the rebellious mind of Europe. Humanism and the Reformed Religion had now to fight for their lives. The larger human interest necessarily obscured the lesser: what concerned the life of the roused masses dwarfed the claims of humanism and culture which were for the few.

Meanwhile the spirit of freedom which had been finding an outlet in Art and Religion could not be arrested within these limits. Political changes were in the air, Nationalities were asserting themselves as against the one papal empire, and considerations of every possible kind began to enter into the calculations of the opposing camps. Protestant and Catholic alike, in strengthening their defences, had to surround themselves with the buttresses of dogma; and thus the reformed religion, while retaining at its heart the principle of freedom, yet narrowed itself to an orthodoxy which was, and still is, wherever it exists, as great an enemy to the Life and Art which are the essential characteristics of pure Humanism, as the mediæval system ever was before it was put on its defence. With this new orthodoxy, as on the other side with the Catholic faith, was inseparably bound up not only the civil life of men but their hopes beyond the grave. Where could

literature and art find a footing, in the face of such tremendous eternal issues? Those belong to the "world," and the true Christian, it was felt, can know nothing of them, or at best only play with them.

The outburst of passion in the 16th and 17th centuries was succeeded by indifferentism in the 18th and by a general skepticism, directed by literature now reinforced by science, and a superficial philosophy that struck at the foundations of all forms of Christianity, and even the primary truths of religion in any form.

As we look back, we feel that the result has been, on the whole, good; the Humanistic and the Theological now tolerate each other's existence and respect each other's aims—the theological spirit having now become alive to fundamental questions, which can only be answered by the help of a free philosophy which unites religious thought with the humanistic theory of life. But the two parallel streams have not yet wholly mingled their waters: that can not happen until Religion shall have been wholly humanized and literature and science have been in their turn consecrated.

This second Revival of letters of which we have been speaking and which brought in its course the full flood of the Reformation, may be best dated from 1440. "The spirit of ancient learning was then diffused," on the Italian side of the Alps. "The Greek language might then be learned in four or five cities, and an acquaintance with it was a recommendation to the favour of the great; while the establishment of Universities at Pavia, Turin, Ferrara and Florence" (during the preceding generation) "bore witness to the generous emulation which they served to redouble and concentrate." [Hallam I. Pt. I. Chap. 2]. Ambitious scholars from Northern lands visited Italy to participate in the new learning. Wessel was there, as I have said, in 1470, Rudolf Agricola in 1476. The invention of printing dates from about 1440–50, and this finally secured the permanence of the Revival. It put a powerful weapon into the hands of the

critics of the old order. The number of pamphlets on religious and cognate topics which appeared in the latter portion of the 15th century is said by Hallam to have been "incredible." In every direction and on every subject, there was an upheaval of the mind of Europe, ending in the accomplishment of the Lutheran Reformation, which again was preceded and accompanied by a reform in the Schools.

We may take the date of the death of Melanchthon [1560] as sufficiently well indicating the period up to which the Religious Reformation and Humanism maintained a close alliance. The Humanism of the Reformation is, indeed, well represented by Melanchthon's text-books. To this date the Humanistic and Religious streams had not yet separated their waters. They now, however, began to diverge. The Order of the Jesuits to which I have already referred, was founded in 1540 and flung down the gauntlet to Protestantism, taking up into its system as much of the new Humanism as was safe. And here it was that the reformers of Church and School made an irretrievable blunder—doubtless owing to internal dissensions. There was no educational agency capable of coping with the Jesuit organization. The Hieronymians, or a Protestant Order on the same basis and with the same aims, could alone have done for modern ideas what the Jesuits did for mediæval doctrine and papal supremacy. The scattered efforts of a great teacher here and there were helpless in the presence of an organized force, with an educational method, and backed by all the power of the Roman Catholic church. The educational zeal of the Reformers meanwhile expended itself on the common school and catechetical instruction. Their belief in literature and learning, which had made their existence possible, was now no longer thorough. They paid a heavy price for this.

The enjoyment, interpretation, and imitation of classical literature characterized Humanism in its first movement. After 1560, the age of criticism and learned editions began, culminating in those scholars, of whom the younger Scaliger and Casaubon may be regarded as *principes*. It is curious to note in the

divergent movements of Religion and Literature, the same tendencies to criticism, revision and formulation. But certainly down to the year 1600 at least, Latin style was still the mark of the humanistic man of culture, just as a genuine faith in the substance of the religious life was the mark of the theologian.

We can easily see how the study of language became the common bond between the Literary and Religious promoters of the revival. A barbarous and monkish Latinity was the vehicle of a barbarous and monkish thought. We cannot separate Language and Thought. Hence the identification of the Humanistic Revival as Literary and Æsthetic with the study of Latin and Greek — the two great vehicles of literature and art common to the European world. Hence, too, the identification of the renascence of a pure Christianity with the critical study of the same languages, and of Hebrew. Latin and Greek literature contained models of literary excellence, while Greek and Hebrew contained the primitive record of a great historical faith. To understand the true significance of the faith it was necessary to understand the original records, in which it was given first to the world. The great weapon against the religious corruptions of the time was the Bible and nothing but the Bible, and its interpretation in the spirit of antiquity. Men had to receive the truths of God anew and to start afresh, as it were. Hence, too, the necessity of still maintaining scholarship in a historical Church, if it is not to become an organ of ignorant fanaticism, and alienate all save the unhistorical vulgar; nay, even because of its extravagances and superstitions, shut out the majority of reasonable men. In Philosophy, Literature and Art, and Theology alike, we must ever and in all ages fall back on original sources and be constantly bringing to light the original meaning of what has been achieved by our ancestors, and this by a critical study, not only of their language, but also of the conditions of past life. This, in fact, is History in its fundamental sense; and it will be granted universally that if Man is a progressive being, he must understand the steps of his past progress, or go on repeating the barbarisms, not only of language, but of thought and

life, which preceded the great intellectual epochs of the Hebrews, the Greeks, and the Romans—the nations which have laid the foundations of our modern political societies, and our individual culture.

Language, then, being the common bond of all the workers of the Renaissance period, we must not be surprised that it should, as with the Ciceronians, itself become an object of idolatry with many. This was one of those extravagances that belong to all great movements, whether they be intellecual or æsthetic, political or religious. Note also that the idolatry of language was a restoration of the ideal of education from the time of Augustus, viz., Oratory. But we must never forget that the revival of Greek and Hebrew had other than literary objects in view. Reuchlin, in first introducing these languages into Germany, truly prepared the way for Luther, by fixing attention on the original records, and thus on the true meaning, of Scripture.

S. S. LAURIE

UNIVERSITY OF EDINBURGH

(To be continued)

THE MOST ESSENTIAL BOOKS FOR A HIGH SCHOOL CLASSICAL LIBRARY

THE first edition of the "List of Books Recommended for a High School Classical Library by a Committee of the Michigan Schoolmaster's Club"[1] (3000 copies) is exhausted. Arrangements have been made with Macmillan & Company to bring out a new and revised edition, which will be published about the beginning of the next school year; the new edition will be brought down to date of publication and will probably include the titles of several important works now in preparation, as the "Dictionary of Classical Literature and Antiquities" (Harper & Brothers) and certain of the recently announced "Handbooks of Classical Archæology and Antiquities" (Macmillan & Co.).

Meanwhile, in response to a demand, which is most gratifying to those by whom the "List" was compiled, and which may be taken also as an indication that our high schools feel keenly the lack of facilities for instruction in the classics and earnestly desire to remedy it, the following list is put forth. It contains "the most essential books," the volumes which should first be selected and purchased for the use of students and teachers. The principles of selection may be inferred from the statement given in the number of the SCHOOL REVIEW mentioned above and from the list itself.

Suggestions that may be of use in preparing the new edition will be most gratefully received; they may be sent to the address given at the end of the list.

Kiepert, H., Atlas Antiquus, Boston, Leach, Shewell & Sanborn. F.† $2.00*.

† The following abbreviations have been employed: F. = folio; Q. = quarto; O. = octavo; D. = duodecimo; S. = sextodecimo; M. = mark (s) = about 25c. (Such prices are for unbound books if the letter b. is not added); rev. = revised; recog. = recognovit; rec. = recensuit.

* The retail price is given and is subject in most cases to discount.

[1] See the SCHOOL REVIEW for June, 1895, pp. 393 ff.

Schreiber, Th., Atlas of Classical Antiquities; ed. for English use by W. C. F. Anderson, with a preface by Percy Gardner. London and New York, Macmillan & Co., 1895. Q. $6.50.

Liddell, H. G., and Scott, R., A Greek-English Lexicon. 7th ed. rev. and enlarged. New York, Harper & Bros., 1883. Q. $10.00.

Harper & Bros., A New Latin Dictionary. New York, Harper & Bros., 1879. Q. $6.50.

Lewis, C. T., An Elementary Latin Dictionary. New York, Harper & Bros., 1895. O. $2.00.

White, J. T., An English-Latin Dictionary. New ed. Boston, Ginn & Co., 1880. D. $1.65.

Hübner, E., Bibliographie der klassischen Alterthumswissenschaft. 2d ed. Berlin, Wilh. Hertz, 1889. O. 15 M.

Engelmann, Wilh., Bibliotheca Scriptorum Classicorum. 8th ed. rev. by E. Preuss. Leipzig, Wilh. Engelmann, 1880–2. 2 Parts. O. 36 M.

The Classical Review; published by David Nutt, London, and Ginn & Co., Boston. Begun in 1887. Q. Annual subscription (9 Nos.), $3.00.

Smith, Wm., A Dictionary of Greek and Roman Antiquities. 3d ed. rev. and enlarged. London, Murray; Boston, Little, Brown & Co.; 1890–1. 2 vols. O. $14.00.

Seyffert, O., A Dictionary of Classical Antiquities, Mythology, Religion, Literature and Art; from the German. Rev. and ed. by H. Nettleship and J. E. Sandys. London, Swan Sonnenschein & Co.; New York, Macmillan & Co., 1891. O. $3.00.

Gow, J., A Companion to School Classics. 2d ed. rev. London and New York, Macmillan & Co., 1889. D. $1.75.

Smith, Wm., Dictionary of Greek and Roman Geography. New ed. Boston, Little, Brown & Co., 1854–7. 2 vols. O. $12.00.

Smith, Wm., Dictionary of Greek and Roman Biography and Mythology. Boston, Little, Brown & Co., 1849. 3 vols. O. $18.00.

Whitney, W. D., The Life and Growth of Language: An Outline of Linguistic Science. 6th ed. New York, D. Appleton & Co., 1892. D. $1.50.

Delbrück, B., Introduction to the Study of Language: A Critical Survey of the History and Methods of Comparative Philology of the Indo-European Languages; tr. by E. Channing. Boston, Ginn & Co., 1882. O. $1.00.

Schrader, O., Prehistoric Antiquities of the Aryan People; tr. from the 2d German ed. by F. B. Jevons. London, Charles Griffin & Co, 1890. O. 21s.

Henry, V., A Short Comparative Grammar of Greek and Latin for Schools and Colleges; authorized tr. from the 2d French edition by R. T. Elliott, with an introductory note by Henry Nettleship. London, Swan Sonnenschein & Co.; New York Macmillan & Co., 1890. D. $1.90.

Goodwin, W. W., Syntax of the Moods and Tenses of the Greek Verb. Rewritten and enlarged. Boston, Ginn & Co., 1890. O. $2.15.

Seymour, T. D., Introduction to the Language and Verse of Homer. Boston, Ginn & Co., 1885. D. $.80.

Madvig, I. N., A Latin Grammar for the Use of Schools; tr. with the sanction and coöperation of the author by G. Woods. 1st Amer. ed. from the 5th Eng. ed. by T. A. Thatcher. Boston, Ginn Bros. & Co., 1870. O. $2.40.

Bennett, C. E., A Latin Grammar. Boston, Allyn & Bacon, 1895. D. Also Appendix to Bennett's Latin Grammar. Same place and date. D.

Hale, W. G., Syntax of the Latin Moods and Tenses. Boston, Ginn & Co. O. $1.50. (*in press*).

Lindsay, W. M., The Latin Language. Oxford, Clarendon Press, London and New York, Macmillan & Co., 1894. O. $5.00.

Hale, W. G., The *Cum*-constructions: their History and Functions (*forms Vol. I. of Cornell Studies in Classical Philology*). Boston, Ginn & Co., 1887–9. O. $1.20. *The same is tr. into German by A. Neitzert, with a preface by B. Delbrück, rev. and supplemented by the author. Leipzig,* B. G. Teubner, 1891. O. 6 M.

Potts, A. W., Hints towards Latin Prose Composition. New ed. London and New York, Macmillan & Co., 1886. $.75.

Müller, L., Greek and Roman Versification; tr. by S. B. Platner. Boston, Allyn & Bacon, 1892. O. $.75.

Doederlein, L., Handbook of Latin Synonyms; tr. by H. H. Arnold with an Introduction by S. H. Taylor. Andover, W. F. Draper, 1875. $1.25.

Allen, F. D., Remnants of Early Latin, selected and explained for the Use of Students. Boston, Ginn & Co, 1880. D. $.80.

Dessau, H. (editor), Inscriptiones Latinæ Selectæ. Berlin, Weidmann, 1892. O. Vol I. 11 M.

Thompson, E. M., Handbook of Greek and Latin Palæography. New York, D. Appleton & Co., 1893. D. $2.00.

Arnold, M., On Translating Homer. In Vol. II. of his Complete Works. London and New York, Macmillan & Co., 1893. D. $1.50.

Moulton, R. G., The Ancient Classical Drama. Oxford, Clarendon Press; London and New York, Macmillan & Co., 1890. O. $2.25.

Jevons, F. B., A History of Greek Literature, from the Earliest Period to the Death of Demosthenes. New York, Charles Scribner's Sons, 1886. O. $2.50.

Jebb, R. C., Homer: An Introduction to the Iliad and the Odyssey. 2d ed. Glasgow, James Maclehose & Sons; Boston, Ginn & Co., 1887. D. $1.25.

Bonitz, H., The Origin of the Homeric Poems; tr. from the 4th German ed. by L. R. Packard. New York, Harper & Bros., 1880. S. $.75.

Haigh, A. E., The Attic Theatre. Oxford, Clarendon Press; London and New York, Macmillan & Co., 1889. O. $3.00.

Jebb, R. C., The Growth and Influence of Classical Greek Poetry. Boston, Houghton, Mifflin & Co., 1893. O. $1.50.

Symonds, J. A, Studies of the Greek Poets. 3d ed. London, Adam & Charles Black; New York, Macmillan & Co., 1893. 2 vols. O. $6.00.

Homer, The Iliad; ed. [*with English Notes*] by Walter Leaf. London and New York, Macmillan & Co., 1886–8. 2 vols. O. $4.00 *each*.

The Odyssey; ed. [*with English Notes*] by W. W. Merry and J. Riddell. Bks. I–XII. 2d ed. London and New York, Macmillan & Co., 1886. O. $4.00. (*All yet published*).

Hymns; erläutert von A. Gemoll. Leipzig, B. G. Teubner, 1886. O. 6.80 M.

The Iliad and Odyssey; tr. by Wm. Cullen Bryant. Boston, Houghton, Mifflin & Co. 2 vols. O. $5.00.

The Iliad of Homer; done into English Prose by A. Lang, W. Leaf and Ernest Myers. London and New York, Macmillan & Co., 1883. D. $1.50.

The Odyssey of Homer; done into English Prose by S. H. Butcher and A. Lang. London, Macmillan & Co., 1879. D. $1.50.

The Homeric Hymns; tr. into English Prose by John Edgar. Edinburgh, James Thin, 1891. D. 3s. 6d.

Sophocles; ed. [*with English Notes*] by L. Campbell. Vol. I. 2d ed. 1879; Vol. II. 1880. London, Whittaker & Co.; New York, Macmillan & Co. O. $8.00.

Pindar; ed. [*with English Notes*] by C. A. M. Fennell. Vol. I. 2d ed., 1893; Vol. II., 1883. Cambridge, Univ. Press; London and New York. O. $4.75.

Aristophanes, Comœdiæ quae supersunt cum perditarum fragmentis; H. Holden ed. Vol. I. Cambridge, Univ. Press; London and New York, Macmillan & Co., 1868. O. $5.00.

Theocritus; ed. [*with German notes*] by Fritsche and Hiller. 3d ed. Leipzig, B. G. Teubner, 1881. O. 2.70 M.

Herodotus; ed. [*with English Notes*] by J. W. Blakesley. London and New York, Macmillan & Co., 1854. 2 vols. O. $4.50.

Thucydides; ed. [*with German Notes*] by Klassen and rev. by Steup. Berlin, 1889. 8 vols. O. (*Steup's revision is incomplete; it will cost about 20 M.*)

Xenophon; ed. by A. Hug, O. Keller and L. Dindorf. Leipzig, B. G. Teubner, 1875–90. D. 4.95 M.

The Works of Xenophon; tr. by H. G. Dakyns. London and New York, Macmillan & Co. Vol. I. 1890, Vol. II. 1892. Vols. III. and IV. not yet published. D. $2.50 per vol.

Plato; ed. by C. F. Hermann and M. Wohlrab. Leipzig, B. G. Teubner, 1873–89. 6 vols. O. 10.50 M.

[1]The Dialogues of; tr. into English with Analyses and Introductions by B. Jowett. 3d ed. rev. New York, Macmillan & Co., 1892. 5 vols. O. $20.00.

Euripides, Tragedies; ed. with an English commentary by F. A. Paley. 2d ed. London, Whittaker & Co., 1860–73. 3 vols. O. 8s. *each*.

The Tragedies in English Verse; by A. S. Way. London and New York, Macmillan & Co., Vol. I., 1894. D. $2.00. (Vols. II. and III. *not yet published*.)

Demosthenes; ed. by Dindorf, rev. by F. Blass. 4th ed. Leipzig, B. G. Teubner, 1885–89. 3 vols. O. 7.20 M.

Aristotle, Opera Omnia; Graece et Latine, cum indice nominum et rerum absolutissimo. Paris, Firmin Didot, 1848–74. 5 vols. O. 80 francs.

Polybius, Historiæ; rec. apparatu critico instruxit Fr. Hultsch. 2d ed. Berlin, Weidmann, 1874–92. D. 16.50 M.

Plutarch, Vitæ Parallelæ; ed. by C. Sintenis. 2d ed. Leipzig, B. G. Teubner, 1873–75. D. 8.40 M.

Pausanias, Descriptio Græciæ; recog. J. H. C. Schubart. Leipzig, B. G. Teubner, 1883–89. 2 vols. D. 3.60 M.

Description of Greece; tr. with notes and index by A. Shilleto. London, Geo. Bell & Sons; New York, Macmillan & Co., 1886. 2 vols. D. $3.00.

Teuffel, W. S., History of Roman Literature; authorized translation from the 5th German ed. by G. W. C. Warr. London, Geo. Bell & Sons (Macmillan & Co.), 1892. 2 vols. O. $4.00 *each*.

Cruttwell, C. T., A History of Roman Literature. 2d ed. New York, Charles Scribner's Sons, 1888 (*reprinted in* 1895). O. $2.50.

Sellar, W. Y., The Roman Poets of the Republic. 3d ed. London and New York, Macmillan & Co., 1889. O. $2.50.

Forsyth, Wm., Life of Marcus Tullius Cicero. New York, Charles Scribner & Co., 1865. 2 vols. O. $2.50.

Faussett, W. Y., The Student's Cicero; adapted from the German of Munk's "Geschichte der Römischen Literatur." London, Swan Sonnenschein & Co.; New York, Macmillan & Co., 1890. D. $1.00.

Froude, J. A., Cæsar: A Sketch. New York, Charles Scribner's Sons, 1879. O. $1.50.

Sellar, W. Y., The Roman Poets of the Augustan Age: Vergil. 2d ed. London and New York, Macmillan & Co., 1883. O. $2.25.

[1]As a partial substitute may be purchased: A Selection from Plato for English readers, from the Translation by B. Jowett; edited with an Introduction by M. J. Knight, London and New York, Macmillan & Co., 1895. 2 vols. O. $5.00.

Comparetti, D., Vergil in the Middle Ages; tr. by E. F. M. Benecke. London, Swan Sonnenschein & Co.; New York, Macmillan & Co., 1895. D.

Sellar, W. Y., The Roman Poets of the Augustan Age: Horace and the Elegiac Group; with a memoir of the author, by Andrew Lang. Oxford, Clarendon Press; London and New York, Macmillan & Co., 1892. O. $3.50.

Nettleship, H., Lectures and Essays on Subjects connected with Latin Literature and Scholarship. Oxford, Clarendon Press; London and New York, Macmillan & Co., 1885. D. $1.90.

Plautus; rec. Goetz and Schoell. Parts I.–IV. [16 *plays*]. Leipzig, B. G. Teubner, 1893–5. D. 5.20 M. (*The remaining plays will soon appear.*)

Terence, Comoediae; rec. C. Dziatzko. Leipzig, B. Tauchnitz, 1884. D. 1.20 M.

Cicero, Opera Omnia; ed. J. G. Baiter and C. L. Kayser. Leipzig, B. Tauchnitz, 1860–9. 11 vols. O. 21.75 M.

The Correspondence of Cicero; ed. by R. Tyrrell and L. C. Purser. Dublin, Hodges, Foster & Figgs; New York, Macmillan & Co., 1879–94. 4 vols. O. $15.65. (*Contains English introductions and critical and explanatory notes. Not yet complete.*)

Orationes; with a Commentary by George Long. Vols. II.–IV. 1st ed., Vol. I. 2d ed. London, Whittaker & Co.; New York, Macmillan & Co., 1855–62. O. Vols. I., II., $5.50; Vols. III., IV., *out of print.*

Nepos, Vitæ; post C. Halm recogn. A. Fleckeisen. Leipzig, B. G. Teubner, 1884. D. .30 M.

Cæsar, Commentarii cum Hirtii aliorumque supplementis; ed. by Bernh. Kübler. Leipzig, B. G. Teubner, 1893–4. 2 vols. O. 2.10 M.

De Bello Gallico, Books I. and II.; ed. [*with English Notes*] by C. E. Moberly. 2d ed. London and New York, Macmillan & Co. D. $.90.

The Gallic War; ed. [*with English Notes*] by A. G. Peskett. London and New York, Macmillan & Co. 5 vols. D. $2.55.

De Bello Civili; ed. [*with English Notes*] by C. E. Moberly. London and New York, Macmillan & Co. D. $.90.

De Bello Civili, Book I.; ed. [*with English Notes*] by A. G. Peskett. London and New York, Macmillan & Co. D. $.90. (Book III. *in press.*)

Lucretius, De Rerum Natura; ed. by H A. J. Munro. 4th ed. rev. Cambridge, Deighton, Bell & Co.; London and New York, Macmillan & Co., 1886. 3 vols. O. $6.00.

Sallust, Catilina, Iugurtha, Historiæ reliquiæ, etc.; recog. H. Jordan. 3d ed. Berlin, Weidmann, 1887. O. 1.50 M.

Catullus; ed. by E. T. Merrill. Boston and London, Ginn & Co., 1893. D. $1.50.

Vergil, Opera; with a Commentary by J. Conington and H. Nettleship. London, Whittaker & Co.; New York, Macmillan & Co. 3 vols. O. $9.75.

Opera; with an Introduction and Notes by T. L. Papillon and A. E. Haigh. Oxford, Clarendon Press; London and New York, Macmillan & Co., 1892. O.

Poems; translated into English by Conington, J., Miscellaneous Writings; ed. by J. A. Symonds. Vol. II. London, Longmans, Green, & Co., 1872.

Horace, Opera Omnia; with a Commentary by E. C. Wickham. Oxford Clarendon Press, Vol. I., 2d ed., 1877, Vol. II., 1891. O. $6.00.

Tibullus, Elegiæ cum carm. pseudotibullianis; ed. E. Hiller. Leipzig, B. Tauchnitz, 1885. O. .60 M.

Propertius, Elegiarum libri IV.; rec. A. Palmer. London, G. Bell; New York, Macmillan & Co., 1880. O. $1.25.

Ovid, Carmina; ed. A. Riese. Leipzig, B. Tauchnitz, 1871–4. 3 vols. O. 2.90 M.

Livius, Ab Urbe Condita Libri; ed. G. Weissenborn and M. Müller. 2d ed. Leipzig, B. G. Teubner. (Vols. I., II.) 6 vols. D. 6 M.

Persius, The Satires of; with a tr. and commentary by J. Conington; ed. by H. Nettleship. 3d ed. rev. Oxford, Clarendon Press; New York, Macmillan & Co., 1893. O. $2.25.

Lucan, De Bello Civili libri X; ed. C. Hose. Leipzig, B. G. Teubner, 1892. D. 3.60 M.

Pliny; Naturalis Historiæ libri XXXVII; recog. L. Jahn (*revised in part. by* C. Mayhoff.) Leipzig, B. G. Teubner, 1858–92. 6 vols. D. 14.40 M.

Martial, Epigrammaton Liber; recog. W. Gilbert. Leipzig, B. G. Teubner, 1886. D. 2.40 M.

Quintilian, Institutiones Oratoriæ. Prag. Tempski; Leipzig, Freytag, 1887. 2 vols. O. 2.70 M.

Declamationes quae supersunt CXLV.; rec. C. Ritter. Leipzig, B. G. Teubner, 1884. D. 4.80 M.

Juvenal, Thirteen Satires; with a Commentary by J. E. B. Mayor. 4th ed. rev. London and New York, Macmillan & Co., 1888–9. 2 vols. D. $5.20.

Tacitus, Libri qui supersunt; recog. C. Halm. 4th ed. Leipzig, B. G. Teubner, 1883. D. 2.40 M.

Pliny, Epistularum libri IX., Epistularum ad Traianum liber, Panegyricus; recog. H. Keil. Leipzig, B. G. Teubner, 1873. D. 1.20 M.

Scriptores Historiæ Augustæ; recensuit adparatumque criticum addidit H. Peter. Leipzig, B. G. Teubner, 1884, 2 vols. D. 7.50 M.

Collignon, M. Manual of Mythology, in Relation to Greek Art; tr. and enl. by Jane E. Harrison. London, H. Grevel & Co., 1890. O. 10s. 6d.

Gayley, C. M., The Classic Myths in English Literature. 2d ed. Boston, Ginn & Co., 1895. D. $1.65.

Coulanges, Fustel de, The Ancient City. 3d ed. Boston, Lee & Shepard, 1873. O. $1.60.

Grote, G., History of Greece. Boston, Little, Brown & Co., 1888. 10 vols. O. $17.50.

[1]**Curtius, E.,** History of Greece; tr. by Ward and Packard. New York, Charles Scribner's Sons, 1888. 5 vols. O. $10.00.

Gardner, P., New Chapters in Greek History, Historical Results of Excavations in Greece and Asia Minor. London, J. Murray; New York, G. P. Putnam's Sons, 1892. O. $5.00.

Allen, W. F., A Short History of the Roman People. Boston, Ginn & Co., 1890. D. $1.00.

Duruy, V., History of Rome and the Roman People from its Origin to the Establishment of the Christian Empire [313 A. D.]; tr. by Clarke and Ripley and ed. by J. P. Mahaffy. London, Kegan Paul, Trench & Co., 1883–6. 6 vols. O. $6.00 *each*.

Mommsen, Th., The History of Rome; tr. with the sanction of the author by J. P. Dickson. New ed. rev. throughout and embodying recent editions. New York, Charles Scribner's Sons, 1895. 5 vols. O. $10.00.

Ihne, W., Early Rome from the Foundation of the City to its Destruction by the Gauls. 4th ed. London, Longmans, Green & Co.; New York, Charles Scribner's Sons, 1886. S. $1.00.

Strachan-Davidson, J. L., Cicero and the Fall of the Roman Republic. New York, G. P. Putnam's Sons, 1894. O. $1.50.

Fowler, W. W., Julius Cæsar and the Foundation of the Roman Imperial System. New York and London, Putnam's Sons, 1892. D. $1.50.

Gibbon, E., History of the Decline and Fall of the Roman Empire. New York, Harper & Bros., 1880. 6 vols. O. $12.00.

Bury, J. B., A History of the Roman Empire from its Foundation to the Death of Marcus Aurelius (27 B. C.—180 A. D.). London, John Murray; New York, Harper & Bros., 1893. D. $1.50.

Bury, J. B., A History of the Later Roman Empire from Arcadius to Irene (395 A. D. to 800 A. D.). London and New York, Macmillan & Co., 1889. 2 vols. O. $6.00.

Judson, H. P., Cæsar's Army. Boston, Ginn & Co. 1888. D. $1.10.

Morey, W. C., Outlines of Roman Law, comprising its Historical Growth and General Principles. 6th ed. New York and London, G. P. Putnam's Sons, 1893. D. $1.75.

[1] Either may be purchased, not necessarily both.

Fowler, W. W., The City-State of the Greeks and Romans. New ed. London and New York, Macmillan & Co., 1893. D. $1.00.

Inge, W. R., Society in Rome under the Cæsars. New York, Charles Scribner's Sons, 1888. D. $1.25.

Blümner, H., The Home Life of the Ancient Greeks; tr. by Alice Zimmern. New York, Cassell Publishing Co., 1893. D. $2.00.

Preston, Harriet W., and Dodge, Louise. Private Life of the Romans. Chicago, Leach, Shewell & Sanborn, 1894. O. $1.00.

Gilbert, G., The Constitutional Antiquities of Sparta and Athens; tr. by E. J. Brooks and T. Nicklin. London, Swan Sonnenschein & Co.; New York, Macmillan & Co., 1895. O. $3.00.

Lubke, W., Outlines of the History of Art. A new tr. from the German ed. by C. Cook. New York, Dodd, Mead & Co., 1887. 2 vols. O. $14.00.

Murray, A. S., History of Greek Sculpture. New York, Charles Scribner's Sons, 1884. 2 vols. O. $14.00.

Baedeker, K., Handbooks for travellers. Leipzig, Karl Baedeker.
Part I. Northern Italy. 9th remodeled ed. 1892. S. 8 M. b.
Part II. Central Italy and Rome. 11th rev. ed. 1893. S. 6 M. b.
Part III. Southern Italy and Sicily. 11th rev. ed. 1893. S. 6 M. b.

Middleton, J. H., The Remains of Ancient Rome. London, Adam & Charles Black; New York, Macmillan & Co., 1892. 2 vols. O. $7.00.

Baedeker, K., A Handbook for Travellers: Greece. Leipzig, K. Baedeker, 1889. S. 10 M. b.

Harrison, Jane E., and Margaret de G. Verrall, Mythology and Monuments of Ancient Athens. London and New York, Macmillan & Co., 1890. D. $4.00.

Schuchhardt, C., Schliemann's Excavations, an Archæological and Historical Study; tr. by Eugénie Sellers. London and New York, Macmillan & Co., 1891. O. $4.00.

Newton, C. T., Essays on Art and Archæology. London and New York, Macmillan & Co., 1880. O. $4.00.

Zeller, E., Outlines of the History of Greek Philosophy; tr. with the author's sanction, by Sarah F. Alleyne and E. Abbott. New York, Henry Holt & Co., 1886. D. $1.75.

Butcher, S. H., Some Aspects of the Greek Genius. 2d ed. London and New York, Macmillan & Co., 1891. D. $2.50.

Freeman, E. A., Historical Essays. 2d series. 3d ed. London and New York, Macmillan & Co., 188–. O. $3.00.

Symonds, J. A., The Revival of Learning. New York, Henry Holt & Co., 1882. O. $3.50.

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THE PASSING OF THE DENOMINATIONAL SCHOOL.

With the growth of the public school system there has been a steady decline in number and influence of voluntary schools. Denominational schools have been doubly handicapped in the struggle for existence. For not only have they been compelled to meet the competition of free schools, in many respects better equipped for their work, but they have also been under the ban of public sentiment. The charge of sectarianism has been made against them in educational gatherings for many years as a reproach until their friends have denied, as Peter denied his Master, the truth of the charge. The intensity of the feeling against sectarian schools was brought out most forcibly during the discussions in the Constitutional Convention of New York state in regard to state aid to such institutions. The amendment as adopted by the convention and subsequently ratified by the voters of the state prohibits the granting of funds of the state or any portion thereof to any institution wholly or in part under the control of a religious denomination or in which any religious tenet or dogma is taught. The opposition to denominational schools, as developed in the discussion, was most pronounced within the orthodox churches themselves, strange as it may seem. The almost fanatical zeal of ministers of the various sects to shut such schools out entirely from state recognition and aid was due to outspoken hostility to the Roman Catholic Church which, it was feared, would gain too much influence in the educational world. The result of their efforts was doubtless not foreseen. It is not likely that they realized that, Samson-like, they were pulling a structure down upon their own heads.

However that may have been, the result is the same. The denominational school is discredited and doomed in New York state, as it is all over the land. The amendment has only hastened its decline. For years there has been nothing denominational about Harvard and Yale, while Hamilton, Colgate and

Rochester are sectarian only in name. An institution of learning is too broad in its purposes to yield itself to the narrow dogmas of a sect. It is set for the investigation of truth and truth is not sectarian. Nobody will, therefore, grieve over the moribund state of denominationalism in the schools of the nation.

But there is something more to be considered. While it is well that sectarianism is or is to be an obsolete term in our institutions of learning, it is not to be contemplated with complacence that the Bible and religion are to depart from our halls of learning at the same time. The bitter warfare of sects is responsible for the elimination of the Bible from the schools. It is a fair inference from the amendment referred to above that all religious training and influence are to be prohibited in schools supported wholly or in part by taxation. It is doubtful whether the religious exercises common at the opening of the sessions of normal schools are permissible. And the bare suggestion of its unconstitutionality ought to be sufficient to stop the farcical show of reverence that influences our legislature to call in a city pastor to offer a formal prayer, so worded as not to offend, at a cost to the state of five dollars a morning. The vital question is whether the Bible is to be permanently kept from our schools and from its influence on the lives of the people. For I dissent most emphatically from the view that the churches and the Sunday schools can look after the moral instruction and training of the young. All the great truths of mind and character must have their roots in the schools or they will soon wither and die. If the Bible is a good book, helpful in the formation of true manliness, why should it be shut out of the schools, especially when many pernicious books are admitted without question? If religion adds something to character and character educates by contact, why should a teacher permeated by the life and teachings of Christ not be more eligible for the sacred office of instructor than one who has only qualities of the mind? All educators, from Froebel to Stanley Hall, urge the importance of the religious element in education. They also object to sectarianism. Assuming that sectarianism, so far as the schools are

concerned, is either dying or dead, cannot something be done to bring back into the schools the influence of the vital truths of Christianity? Is it not possible to agree upon terms for the re-admission of the Bible or parts of it into the schools on a level with other books that help to mould true character?

Probably the Roman Catholics are the only denomination that would seriously object to the Bible in the schools. Perhaps they would not object if their version were put on the same plane as King James'. But even if they should object, what matter? On what ground can a valid objection be based? Is the Bible pernicious literature? Will it injure the morals of the young? Eliminate all sectarian interpretation, and there is no valid reason why the Bible may not be used as a reading book or a text-book in morals. Let the truth speak for itself, but there can be no good reason why the book should be again chained in a cloister.

Again, if little or nothing can be done toward vitalizing the public schools with Christian teachings, voluntary schools are still free to do what they can in this direction. There are still a few schools that are popularly regarded as denominational. Why can they not drop the name denominational, which is an empty thing, and retain only the title Christian? Then all those of whatsoever creed, who believe that schools should be permeated with Christianity, may rally to their support. A few such schools would receive ample support in the present and increased patronage as the years go by. For many of the most indifferent to Christianity as a personal matter nevertheless desire to have their children trained up under its benign influence.

A. C. HILL

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THE TEACHER'S OUTFIT IN PHYSICAL GEOGRAPHY

I.

THE PROPER FIELD OF PHYSICAL GEOGRAPHY

THE teaching of physical geography in the secondary schools is now in a transition stage. There has long been a feeling among teachers and parents that the study of the earth should be carried beyond the elementary course of geography in the lower grades. Naturally enough, therefore, the subject of physical geography has found a place in the high school curriculum in a large number of places. The feeling of dissatisfaction with the ordinary science teaching in the secondary schools, which found such vigorous expression in the report of the Committee of Ten, has been stronger in its relation to physical geography than to any other single subject. This is certainly justified, for the subject has in most cases been thrown into the curriculum merely because of the demand for it from outside; its position has been insecure; it has been thought that almost any of the teachers in the school could give the instruction in it; and in almost every way, the teaching and the matter taught have been scarcely calculated to raise the subject to a rank equal to that of most which are taught in the secondary schools. Added to this is the fact that the available books have usually been merely a mass of disjointed facts, not only poorly assorted, but very often decidedly inaccurate. The best that can be claimed for the subject in this condition is that it gives a mass of information; and nearly every one has been convinced that even the end of imparting desirable information has hardly been reached by the instruction.

So it has come to pass that physical geography has been omitted from many schools, and has deservedly taken a very insecure position in many others. This, which has lately been

called the old school of physical geography, is little more than descriptive geography. In America, and to a less extent in Europe also, that part of physical geography which deals with the land has of late begun to become a real science, which has been called *physiography* or *physiographic geology*. This new aspect of physical geography recognizes that the land form is something more than mere dead earth features, which are capable of description, and discovers that these forms are merely a part of an ever-changing history. The outlines of the land have developed and are still in process of change; and, when viewed from the proper standpoint, each and every feature of the land has a story to tell.

In strongly urging the introduction of this physiographic study into the curriculum of the secondary school, the subcommittee on geography of the Committee of Ten, has intimated, what is perfectly apparent to all who have thought upon the matter, that one of the difficulties in the way of its introduction, is the fact that most of the present science teachers have no training in physiographic matters. This new aspect of physical geography has only of late found a place in a few of the larger colleges, and until recently there has been no general book in which the subject is treated. Now that there is a text-book adapted to use in the schools, and since there is every reason for believing that the recommendation of the Committee of Ten will be followed, at least in a degree, it seems a fitting time to indicate, in a general way, how the teacher may prepare himself, and what materials are available for use in this class of instruction.

Before commencing this task, I would briefly outline what seems to me best adapted to the needs and conditions of the schools. While I agree most heartily with the spirit of the report of the Committee of Ten, and also with many of its recommendations, I find myself at variance with some of the suggestions. It is the proposition to reduce physical geography to a position intermediate between geography and the more specialized consideration of several aspects of this subject, namely, meteorology,

physiography and geology. While this may do for an ideal scheme, I think that many teachers will see grave obstacles in the way of its adoption. The outfit necessary, both in the materials and the training of teachers, is beyond the reach of the great majority of schools; moreover, the pressing claim for a place in the school course that may be made for the other physical and natural sciences furnishes another obstacle to the introduction of the plan of the committee under the present conditions of education in this country. Besides this, the supporters of the schools, the great public, are bound to be recognized, even if they do interfere with the best ideal educational scheme. At some future time we may find the conditions ripe for the adoption of this plan; but unless I am entirely in error that time has not yet come.

Again, I cannot agree with the idea that physiography is capable of being properly taught separately from geology. It is really and distinctly a branch of geology, and to appreciate its most fundamental conceptions, one must first know something of geology. That this is distinctly so is plainly enough shown by the fact that the ones who have built up physiography have all been geologists, and have done so on the basis of their geological training. Had it not been for trained geologists, we would not yet have had the science of physiographic geology. It does not follow from this that the students must be trained geologists, but it does follow that they must know something of geology. In my own experience in teaching the subject of physiographic geology, I have found it necessary to furnish some geology as a basis on which to build further study; and I have never known a student who has gained a clear idea of the subject without having it built on a geological basis.

I have been thus at length in stating my objections to the plan of the Committee of Ten in order that my reasons for considering the subject as I do may become apparent. For the above reasons, rather than *degrade* physical geography, in order to give a place to physiography and meteorology, I would attempt to *elevate* physical geography by the introduction of

more rational methods, somewhat as the committee has suggested.

Aside from the necessity which I believe to be imposed by the conditions that control the curriculum, there seems to be a very strong reason why physical geography should have an important place in the secondary schools, in the fact that it presents a knowledge of the earth's features as a consecutive and connected whole. The study of the air, the ocean and the land will furnish to the student some knowledge of the earth as a whole. In the way proposed, this knowledge may be imparted without making the gaining of information the single or even the primary goal. Valuable mental discipline may also be given; and if the instruction is good, this result may be made one of high importance. Under the present conditions, it seems to me that both training and information must be recognized as necessary aims in the school, whether this is best from the ideal standpoint or not. In the high school I would not attempt to teach physiography, nor even meteorology, apart from physical geography, unless, indeed, there are some schools which are sufficiently advanced, or which have the necessary teachers for this particular class of science teaching. These subjects may very well be given over to the college at present. Enough of them for the purpose of the secondary school student can be studied as a part of physical geography; and they furnish no training which cannot be as well gained by a rational study of physical geography, and the various other sciences now taught in the schools.

Therefore the course which I would urge is a study of geology in connection with and in its relation to physical geography. If but one year can be given to the subject, I would have first a study of the air, then of the ocean, and this followed by enough geology to serve as a basis for a proper understanding of the physiographic study of the land which then follows. If more time than this can be given, I believe it would be vastly to the advantage of the student, both from the standpoint of mental discipline and of desirable information gained, to elaborate the geological side by a more thorough course in the study of min-

erals, rocks and earth history. Upon the basis of this an appreciation of the origin of the present land forms can be very much better gained.

LABORATORY AND FIELD STUDY.

There are two aspects of the object of teaching ever to be kept in mind in this discussion. One is that actual information is to be imparted, the other that from the study the pupils are to gain a discipline of mind which the several branches of the subject are well calculated to give. From books the teacher may easily obtain the information needed for the instruction; the knowledge of how to impart the training is much more difficult to gain. It will seldom come without a direct interest in the subject, and this must be followed by some training and intelligent thought, preferably, though not necessarily, in some school where these subjects are taught. There are now opportunities for the study of geology and physical geography in the summer schools of some colleges, and these perhaps offer the best facilities for obtaining this training. Still, with interest in the subject, and sufficiently intelligent work, it is possible for a teacher, without great difficulty, to obtain sufficient training to enliven the teaching and to develop methods which shall arouse the interest of the students, and at the same time give them valuable mental discipline. I would urge that one of the things most fundamentally important, and one upon which the success of the whole work depends, is this very point of arousing the interest of the student. How to do this, no one can say. It rests with the individual teacher; but few subjects offer a better opportunity for the development of this power than does physical geography; and certainly one of the necessary conditions is a direct and even enthusiastic interest on the part of the teacher.

For suggestions as to method, I can make none better than to urge a careful study of the report of the conference on geography, which is contained in the report of the Committee of Ten. In this there are invaluable suggestions made by masters of the

subject, and no wide-awake teacher can peruse the report without finding in it stores of ideas of the utmost value. As an outcome of this report a pamphlet has been issued by Professors Davis, King and Collie,[1] containing suggestions concerning the use of topographic maps in physiographic study. This is also a storehouse of suggestions; but I would warn the teacher against a grave danger which may arise from the use of topographic maps. It is this: that first of all the pupil should really understand a topographic map. Without a thorough knowledge of the meaning of these, the interest is lost and with it the value of the training; for unless the real meaning of the map is plain to the student, its lesson is not half learned. Even with college students, I find it to be one of the gravest difficulties in the way of laboratory study in physiography. To a mind not trained even in a knowledge of the land surface, one which, as I have found in some college students, has no real conception of what a plateau or mountain is, the study of a contour map of the land may become one of the blindest searches after hidden truths. I am not at all certain that this difficulty can be overcome in the secondary school; but I am certain that it will prove to be a real difficulty.[2]

If done in the proper way, instruction with the aid of topographic maps may become of great value. In a properly selected series, such as that suggested in the pamphlet by Davis, King and Collie, the students will find lessons innumerable, and the teacher will be able to use them to develop habits of thought on the part of the pupil. The valleys are cañons; they have rounded sides; or the two classes may be seen on the same sheet. A plain is crossed by many streams or by few. The streams cross the mountains or run parallel to them. On one sheet there are numerous lakes and swamps, on another none, etc. Why are these conditions so? Under what conditions

[1] Report on Governmental Maps for use in Schools, Henry Holt & Co., New York 1894.

[2] In this short article I cannot fully refer to the sources of topographic maps; and fortunately this is not necessary, since any one interested can obtain the information from the pamphlet by Davis, King & Collie, referred to above.

would they be different? Show a map in which they are really different and have it carefully studied. If he will, the teacher can make this use of the maps of great value, regretting only that time does not allow a more extended use of them.

Better than the topographic map is the model, but unfortunately there are few of these that are available, and most that are can be purchased only at great expense. Still this difficulty is almost certain to be remedied soon. There are two models which should be in every school that can afford them. One of these is the Jones model of the earth, sold (for $100 with discount) by Thomas Jones, Chicago, Ill., which is really a globe showing the relief of the land and the ocean bottom without the presence of the ocean waters. The other is the Howell relief model of the United States, sold by E. E. Howell, 612 Seventeenth st., N. W., Washington, D. C. There are two sizes of this, the largest costing $125, the smaller $25. From these one may learn much concerning the general features of the earth's surface, which are shown in relief. Relief maps, such as the Kiepert, which are sold by Rand, McNally & Co., and other dealers in school supplies, are also valuable for a study of the general features of the land.[1]

Still, while I believe that in many cases the map and the model can be made a valuable aid in the instruction, I would place more stress upon the use of photographs. The majority of the features of the land can be illustrated by these. Series carefully selected to show different kinds and stages of topography can be studied by the pupils individually. Or, better than this, each student may be supplied with a blue print, which may be obtained, in large numbers, at a very slight cost. But wherever possible the lantern slide should be used in place of the photograph.[2]

[1] Lists of these with prices may be obtained from dealers.

[2] A series of lantern slides for this purpose has been selected by Professor Davis and described by him in a pamphlet, entitled, "List of Geographical Lantern Slides," published as one of the papers of the physical geography laboratory of Harvard University. The slides, which are over one hundred in number, are sold by E. E. Howell, 612 Seventeenth st., N. W., Washington, D. C., at the uniform price of 50 cents each.

It is possible to use an electric lantern in a partially darkened room, and this is far preferable to the use of the old-fashioned oxo-hydrogen lantern. Fortunately, at present, the use of electricity is possible in many schools.[1]

With the picture on the screen, the methods of field work may very easily be introduced. Every pupil can see the features illustrated, and in place of a recitation, the teacher can do much in the way of valuable instruction by calling for a description and starting a discussion of the feature illustrated by the picture, and upon other related subjects upon which it throws light.

Of course the very best way to study the form of the land is to see the real thing; but, unfortunately, no single place is so favorably situated as to have near at hand even the majority of the features of the land. The seacoast, the mountain, the volcano, and many other features would be impossible of study in most schools. For the purpose of obtaining knowledge of these, models, maps and photographs must be substituted. However, since one of the prime objects of the study is the training, it matters little whether the students are unable to see all the features of the land or not. Field study is well calculated to train habits of observation and logical reasoning; and, therefore, even a few excursions, for the purpose of studying some of the features of land, will be found to be of the greatest value, provided the work is properly done. No general rules can be laid down. Each teacher must seek out lessons by himself and apply them in the best way that he can.

One of the most important features of the field study is that the student is taught to see for himself. It is possible to conduct field excursions in either one of three ways, only one of which produces a really valuable result. The excursion may be made an outing, in the course of which, the teacher tells the

[1] The electric lantern will cost from $125 to $200; but the oxo-hydrogen lantern costs considerable less. In order not to injure the eyes of the students, the screen should not be placed directly in front of the class, but to one side; and the lantern may then be managed by the teacher in front of the class and on the side of the room opposite the curtain.

pupils what he himself is able to see, thus adding a little more to the store of information with which the student mind is constantly being crammed; or the pupils may be placed entirely upon their own mental resources, and be set at work to make their own observations and draw from them conclusions which they must defend against criticism. This may at first seem to be the really valuable method; but having seen both of the above plans tried, I am convinced that the mere outing produces more good than the second method. Even people of mature minds are appalled when they are set to work in an entirely new field and obliged to think for themselves. The mind is incapable of the task, and the study, instead of being a pleasure, and one filled with interest, soon becomes not only unattractive but even distasteful.

Instead of being placed on his own resources, the student should be skillfully led by the teacher into the habit of seeing and of building up conclusions from what he sees. We will take but one or two illustrations of field study, which will be found possible in nearly every district in the country. We may first imagine the class assembled at the foot of a ledge of rock. They are told to examine this and report. One of the members is asked what he has seen. Perhaps he has only discovered the existence of the ledge, for this is all that most people would see. Other members of the class are asked the same question, and one is found who has discovered that the rock is made of layers, one jutting out beyond another. Every student should then see this fact and the class might well be told to examine the ledge again and see if they can find any differences in the layers which will explain the projecting and reëntrant parts of the ledge. What relation do these differences bear to the irregularities of the surface? and is it constant?

After this it is found that there are joint planes crossing the rock, and perhaps fossils can be found in some of the layers, while plants are at work disintegrating the ledge. Indeed, in this single outcrop may be found the entire lesson of weathering, or if not all the details, at least enough of them to make intelli-

gible a statement or study of the other phenomena of rock destruction. From this ledge, not only do we see how rocks crumble, but we learn the first lesson in the formation of soils, many facts concerning the structures of the rocks, and even obtain the basis for a proper understanding of how the land surface melts down and assumes variable outlines throughout the ages. Many excursions could be made and each one furnish its lessons of value. Indeed, from this as a basis, a skillful teacher could build up a good part of geology and physiography.

For a second illustration of possible methods of teaching field work, we may suppose that the class is led to the bank of a river or creek. It is now flowing quietly. Is this the constant condition? There has been no rain for days or perhaps for weeks; then where does the water come from? A spring near at hand tells the story, and from this may be gleaned the lesson of the work of underground water; its action in the solution and decay of minerals, formation of caverns, landslides, etc.

Returning to the stream, its bed is found to be lined with pebbles or possibly boulders. What are their features? They are smooth, partially rounded, though somewhat flattened and laid with their flat sides in a position to offer the least resistance to the flow of water. Are they all of one kind? What is their source? How did they get where they are? What will become of them? Have the students seen the stream when it was a roaring flood? These and other questions lead up to the conclusion that the running water is deepening the channel and moving the fragments down stream. What will be the result after long periods of time? How will the action of underground water and weathering influence the work of the river? Have any of the class seen the muddy rills in the road or in a field during a heavy rain?

Here we have the basis for the study of river valleys from which the class can see how under some conditions a narrow valley is produced, while under others, a valley is broad with gently sloping sides. The effects of differences in enclosing rocks, of the absence of some of the agents of weathering, as in arid lands,

of moderate and uniform flow, of steep and gently sloping banks, etc., can be deduced from facts seen in the field or suggested by field observations. Here again a skillful and well-trained teacher could, if he would, take up from this tiny stream, which is perhaps no more than a brook, the whole question of the sculpturing of the land, the history of the development of the river valley, and the reasons for the many differences in river valleys.

The waterfall, the sand bar in the river, the glacial deposits, the lake or seashore; all of these, and others, which are seemingly things merely to be described, are really phenomena to be studied for the direct lessons which they teach and also for the light which they throw upon other phenomena. No one can give general printed directions to the teacher which shall serve to tell him how this and that can be done. He must, first of all, become familiar with the country around his school; and he must put himself into the position of the student and see what lessons he can find, then thoughtfully reflect upon the way in which he can apply these lessons. Working in this spirit, any teacher of intelligence can prepare himself to use the outdoor lessons for the benefit of his class. Naturally, some will do it better than others; but anyone who will try, will find that he can put a real, live interest into the students by relieving them of the monotony of learning from a book, and by showing them how they can learn from nature's great book.

I anticipate the criticism that this calls for time that is not available. Little could be done in an hour, for often this time would be required in coming and going. This is a real and serious objection, but I do not think it fatal. I have known teachers who have organized voluntary excursions at times other than those of the regular school periods, and I think that this would never be impossible. Again, I have known teachers who have given students instructions to visit a certain locality at some leisure time and to report upon it. The reports were discussed in the class and then the members were asked to go again for additional facts. In making such excursions, they would go in

squads or parties when they had the time, and the particular class which I had in mind was full of enthusiasm, an enthusiasm derived partly from an interest in the work and partly obtained from the teacher who had so much of it that it became contagious. This method, though better than no field work, is certainly inferior to that in which the teacher is actually present as director and guide.

Each student can do field work on his way to and from the school, provided his home lies beyond the region of paved streets; and sometimes this is possible even in the midst of a large city. Reporting on what he sees, he can obtain the training and learn some of the lessons of the earth's surface. Students are always glad of a chance to work and think for themselves; it is not only a relief and change, but it appeals to the pride of one who is anxious to do his best, provided always that he has the interest.

In these suggestions, I have not felt it necessary to follow any especial order, because it is not my purpose to tell just how the study should be carried on, and the same method would hardly apply in two different schools. The best that I hope to do is to throw out a few hints which shall serve to suggest others to the teacher who is interested. Nor have I attempted to distinguish between the study of the land from the standpoint of geology and physiography; for, as I have indicated above, it is my belief that they go hand in hand and cannot properly be separated.

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(To be concluded)

COMMUNICATION: A WORD WITH PRESIDENT COULTER

EDITOR OF THE SCHOOL REVIEW:

Allow me to enter a serious protest against a wholesale statemade by Professor Coulter on the first page of his article in your February number. He says that physical geography, astronomy, geology and physiology "in the very nature of things cannot be handled in secondary schools other than as purely informational subjects. As such they contain no scientific training whatever, and such claim should not be made for them."

Geology as a specialized subject is better handled in colleges than in schools, but many of its simpler principles form an essential part of physiography, which is very properly a high school subject. As to physiology, I cannot speak. As to astronomy and physical geography, including meteorology, my opinion stands precisely opposite to Professor Coulter's. It is very likely true that in most secondary schools of today, these three subjects are treated in a purely informational manner; so are all other subjects, for that matter. But all three of them can be treated so as to yield abundant and excellent scientific training, and in certain secondary schools that I know of a good beginning is already made in treating some of these subject scientifically.

Taking astronomy first, it is safe to say that simple observations, within reach of scholars in grammar and high schools, may lead them to a thoroughly scientific, though elementary, understanding of the movements, distances, and sizes of various heavenly bodies. Training in observation, generalization, inference, deduction, and verification would all be afforded in this work; and the really marvelous nature of apparently commonplace things would be disclosed. Geometry would be carried from the dusty blackboard to its magnificent applications in the sky. The discipline thus gained would be valuable by very reason of its contrast with that given by all other studies. It is true that the ordinary use of current text-books prevents almost entirely the kind of work that I have in mind; and it is as true

here as in physics, chemistry, zoölogy and botany, that the teacher must be thoroughly competent to deal with the subject. When the competent teacher of elementary, practical astronomy is forthcoming, the text-books will be largely displaced by observational "laboratory work"—even though the laboratory has no ceiling. At the end of a course of this kind, the scholars will not have so much information as if they had studied what is properly called a good text-book, but they will have a sound and appreciative knowledge of the essential quality of astronomy; and on this they can build as much more knowledge as they wish. The kind of astronomy that I wish to see taught might be called "astronomy at sight." I am not willing to admit for a moment that "in the very nature of things" this grand subject must be taught to the majority of our people in such a way as to give them "no scientific training whatever."

Taking meteorology next, there is hardly a school subject that is more abused today, but I have hopes of its gradual improvement. Here is a subject in which every school is well supplied with facts to work on, even if they are outdoor facts. The supply need not be limited to local facts, but may be greatly extended by using weather maps and climatic charts, now generally available. If objection is made that these do not supply first-hand facts, it is only necessary to refer to the use that has been made of them by Loomis, Ferrel, and many others, whose work is of a highly scientific nature. The discussion of local and general observations calls for the most interesting applications of the principles of physics; an indoor laboratory subject is thus given its proper outdoor extension and application. My colleague, Mr. R. DeC. Ward, has this winter given brief courses of ten lectures each to the teachers in four towns near Boston, in which he has laid out a thoroughly scientific plan of work in elementary meteorology for grammar schools. Jointly with him, I have planned a course of more advanced grade for high schools. Both these courses are educative in a high degree. In regard to meteorology, therefore, as far as Professor Coulter has included it under physical geography, I

fear that he has spoken more from acquaintance with what is ordinarily done in the schools, than from a consideration of what can be done.

Finally, physical geography—or physiography, as it is coming to be called—may be made thoroughly scientific in its methods and highly educative in its results. It may be presented in secondary schools so as to lead to demonstrable knowledge; it may develop ability to think logically; it may cultivate real mental power. It may be based on observation; for although the opportunity for observation in elementary physiography is at present seldom utilized even by country schools, the reason for this neglect is chiefly that the teachers themselves do not know what there is to observe. Photographs and lantern slides may almost replace field work for city schools, particularly if a little flavor of outdoor observation can be introduced once in a while, and if the photographs begin with local views, well chosen. Good maps, which are becoming more easily obtainable every year, afford basis for description, generalization, inference, and other educative exercises. It is unhappily true that much of what can be done is not done now; but it is happily true that geographers need by no means despair of ever being able to teach really scientific geography. The reports that I have had this winter from a number of the teachers who attended my course in physiography last summer are most encouraging as to the possibility of replacing empirical, descriptive geography by rational physiography, even with young scholars. Physiography, universally recognized as of great value on its informational side, may certainly be delivered from the reproach that Professor Coulter puts on it.

It is not surprising that a biologist, plentifully occupied with his own line of studies, should not be aware of the advances advocated in the methods of teaching the inorganic branches of natural science; but it is to be regretted that he should so positively assert his views of the narrow educational limitations of these other branches at a time when many are laboring for their extension.

W. M. DAVIS

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BOOK REVIEWS

Elementary Physical Geography. By RALPH S. TARR, B.S. F.G. S. A., Assistant Professor of Dynamical Geology and Physical Geography in Cornell University. 488 pp. Macmillan & Co. Price $1.40.

As indicated by the author in his preface, this work is designed to meet the growing need of a text-book of Physical Geography from the modern point of view, and is based upon a larger work for teachers and for reference, which is now in preparation. The book has three parts, devoted to the Air, the Ocean and the Land, and occupying respectively 148, 55, and 226 pages. It abounds in well-selected illustrations, 267 in number, including a wide range of maps, photographs, and explanatory diagrams. One of the best features is the bibliography. Each chapter is followed by a guide to the best and latest literature of what in large part we may call the new geography. Titles, price, publisher and notes of description are given, with suggestions for securing government publications, it being rightly presumed that many teachers are unfamiliar with a very rich geographical literature which may be had for the asking. The appendix contains sections on meteorological instruments, apparatus and methods, topographic maps, including suggestions to teachers for the various chapters and lists of questions upon the text.

Part I. has chapters upon The Earth as a Planet; The Atmosphere; Distribution of Temperature; General Circulation of the Atmosphere; Storms; The Moisture of the Atmosphere; Weather and Climates, and The Geographic Distribution of Animals and Plants. The last chapter is a summary of the principles of distribution, but might well be supplemented by some fuller account of the animal and plant groups of the various continents and countries. This would also help to relieve the work of the prejudice which yet exists in some quarters, against the inevitable emphasis which genetic geography lays upon geology.

Part II. treats of the Form and General Characteristics of the Ocean; of Ocean Waves and Currents, and of Tides. The topography,

floor materials and life of the deep seas are presented briefly, but in the light of modern oceanography.

Part III. represents the field in which the author of the book has chiefly carried on his own researches, and here also, as we should expect, we find the larger share of facts which are new to work on physical geography. The opening chapter, on the crust of the earth, gives some account of its movements and deformations with plentiful illustrations of stratification, folds, faults, dikes and unconformities; in other words, the structures that guide the genesis of geographic forms. This is followed by a discussion of the denudation of the land, which in turn gives place in natural order to a chapter on topographic features of the earth's surface. Chapter xv. treats rivers, valleys, and embodies more of the central principles of the new geography than any of the others. Here the base level is defined and notice is taken of youthful, mature and senile stages of the development of a land surface. These matters might to advantage have been explained and illustrated at greater length, inasmuch as they may fairly be supposed to be new to most teachers in the public schools. It would seem that the peneplain, as the result of denudation which commonly falls short of actual base level, and the Monadnock, or outstanding remnant of an older topography, should have been defined, as having fairly earned a place in our permanent geographic nomenclature. There is space here but to mention other fresh and important topics which appear in the chapter, such as the union of weathering and stream cutting in denudation, adjustment of streams, the law of divides, accidents to streams, drainage and climate, and land movements, which may rejuvenate or drown streams. This important chapter should be supplemented, as the author evidently intends, by study of the geographic papers of Powell, Davis, Gilbert and others. Some further topics are: Glaciers, The Coast Line, Plateaus and Mountains, and The Topography of the Land, all fully illustrated and characterized by the author's usual clearness of statement. Man and Nature, and Economic Products of the Earth occupy the two closing chapters.

The author makes but a modest claim for the volume, but has certainly presented to us a text-book to which teachers in secondary schools should turn, who would guide their classes to a vital and truly educational study of geography. Such a knowledge of geography cannot be had easily in any case, but the earnest student cannot fail of it in the end, if he will use Professor Tarr's book diligently, and not

more for its direct teaching, than as a guide to the literature and to field study. The work is a good symptom of the recent and rapid rise of a consistent science in the room of the jumble of facts too often known as geography.

ALBERT PERRY BRIGHAM
COLGATE UNIVERSITY

The History of Oratory, from the age of Pericles to the present time. By LORENZO SEARS, L.H.D. Chicago: S. C. Griggs & Co., 1896.

TEACHERS who have found how quickly interest is kindled at the story of a great speech by Burke or Webster have often wished for a book that might be recommended to students as summarizing the history of oratory. Such a book Professor Lorenzo Sears, of Brown, has now supplied. Within the limits of something more than 400 pages the author takes us with alarming speed over the ages between Lamech and George William Curtis, dwelling briefly on each name that ought to be signalized in such a survey of the world's eloquence. That Curtis should be included in the list of great is due to a certain change of perspective which sets in as the historian's gaze travels over the centuries. The nearer to our own time the orator stands the more careful is the attention given him, a plan which for the purposes of American youth is not without its merits. No student, northern or southern, can fail to find Dr. Sears' story of American oratory as fascinating as it is clear and concise. But in the earlier part of the book the history of oratory seems to mean a very general summarizing of the characteristics of each orator and the principles of his composition. The stirring events which tested these principles are little regarded. The tremendous effect produced upon assemblies and courts by the masterpieces of Demosthenes, or Lycurgus, or Cicero is either ignored or set forth with none of the graphic power displayed in sketching the great moments of modern oratory.

Professor Sears begins with a short search for traces of oratory in early literature, particularly the Greek and the Hebrew. Thence he passes to forensic oratory in Sicily, and from this point to Aristotle gives us what, without disparagement to the epitomist, may be called little more than an epitome of Jebb's Attic Orators. On the natural oratory of Andocides, however, he lays rather more stress than does his distinguished authority. An unsatisfactory account is given of

Aristotle, the rhetorician; and Aristotle's is about the only rhetorical theory we are asked to know. Early Roman orators are written about with a fluency that is likely to mislead the uniniated into thinking we have first-hand knowledge of these men. Cicero gets his meed in space; and his successors and Quintilian are put in their right historical light. The next step is to patristic oratory; the reader wonders why the later Sophistic, which in a sense prepared the way for this, and which makes a picturesque, instructive period, is omitted. The mediæval preachers, especially those of the crusades, are too little known. They are here adequately treated, though briefly. A diverting chapter on eccentric (mediæval) eloquence precedes the serious discussion of Savonarola, and the preachers of the Reformation. Modern French oratory is represented by the four great pulpit speakers of Louis the Grand, by Mirabeau and Napoleon, and by various men of the restoration. Pitt and British oratory in general get a chapter; while Mansfield, Burke, Sheridan, and Fox divide two more between themselves. The rest of the book, seven chapters out of thirty, goes to American oratory. The outline as a whole seems to have due proportion. The characterizations of individual men appeal to the reader as sound: they are the work of a trustworthy critical faculty.

Reference was made above to the unsatisfactory character of the chapter on Aristotle. This is rather superficial. The mischief begins with too much vague general praise, which at the end of the chapter becomes mere fine writing. The author says of Aristotle's language that "there is no indefiniteness about it, no mistaking the lineage of each minor and major proposition;" and this in the light of the utterly divergent interpretations reached by two of the most eminent scholars of our day, Jebb and Cope, concerning a matter so fundamental to the whole theory as is the euthymeme. Dr. Sears, by the bye, does not even mention the euthymeme. Other important matters go unexplained. Having alluded to the "topics," a term which needs elucidation if only to warn against confounding Aristotle's topics and those of Quintilian, the author remarks: "There is something in these commonplaces that reminds one of Bacon's *Essays*." It would have been apter to refer to Bacon's own commonplaces, the *Antitheta* that he wrote in imitation of Aristotle.

Professor Sears does not seem to recognize that Book II., which he dismisses with a line as being "about principles of belief, as related to the speaker and the hearer," is really a sweeping qualification of the

doctrine of Book I. That doctrine is that persuasion should be logical. But a large part of Book II. is a concession to the claims of the emotional proofs. In this elaborate if popular psychology of the emotions Aristotle recognizes more fully and more subtly than any of his successors the efficacy of the appeal to the sensibilities. It is therefore hardly exact to speak of "his neglect of whatever affects the sympathies or the aversions of an audience;" and it is tardy justice to add at the end of the chapter a half dozen lines calling attention to the chapters on anger, etc., "for the part which emotions occupy in the art of persuasion."

Nor is it exact to say that Aristotle "takes occasion to rank the art of expression side by side with the faculty of thought, logic;" for this assertion does not take into account that this "offshoot of logic," as he called it, was to Aristotle a somewhat contemptible science, trading in sophistry alone. To imply further that Aristotle elevates rhetoric "perhaps with an eye to Plato's slurs upon rhetoric" is surely less than half right; for Aristotle's rhetoric is little more than a cold scientific elaboration of that "false opposite" of logic to which Plato objected; the stamp of Plato's own sarcasm is on all the book. This looseness in the treatment of Aristotle makes it impossible for the reader to understand the theories of Hermagoras — whose cardinal doctrine of the *issue* our author ignores — or those of Dionysius, or Cicero, or Quintilian.

These facts necessitate a cautious use of a small part of the book. But no such criticism is possible of the swift, graphic, interesting account of mediæval and modern oratory.

E. H. LEWIS

THE UNIVERSITY OF CHICAGO

The Essentials of Arithmetic, Book II., for upper grades. By GORDON A. SOUTHWORTH, Leach, Shewell and Sanborn, 1895.

THIS, the second part of the author's two-book course, is one of the most noteworthy elementary text-books of recent years. It is one of the very few works that have successfully broken from tradition. It is a rare event when a text-book writer attempts to be modern and does not fly off on a tangent, riding as it were a winged hobby until he is far away from this practical earth. Mr. Southworth is the hundredth man, yea, even the thousandth.

This is high praise. What is there in "The Essentials of Arithmetic" that is so distinctive and at the same time so excellent as to deserve such an encomium?

In the first place the author has dared to attempt to make pupils think, actually think for themselves without telling them what they ought to think. Moreover he has succeeded in this respect as almost no writer on elementary arithmetic in America has ever succeeded. He has given us a model of heuristic teaching. The pupil is led up to his own definitions by brief, simple, logical questions; he is taken into confidence; instead of being told what a fractional unit is, he tells the teacher; instead of learning what a quintillion is, he answers the question, "Can you think of any use for billions, trillions, quadrillions, or larger numbers?" Instead of learning the text-book's directions for performing certain operations, the pupil, unconsciously guided, gives his own directions; instead of being told in what century 1900 belongs, he finds it out for himself; and so, in general, throughout the course he depends on himself in a way that will inspire him with confidence and with a love for the subject.

Futhermore the author has dared to insert the definitions where they belong, that is, after the concepts are entirely familiar, and to say, "For reference." Such pedagogy is as refreshing as it is unusual. Yielding to the mammon of unrighteousness he has put in some rules, but he has placed them where they will never be used, in an appendix, and has preceded them with this suggestive text, "A clear understanding of subjects and principles will make rules unnecessary."

Another venturesome idea has been carried out, and one which may militate against the sale of the book; the author has insisted that the teacher should also think, and should know something outside of the text-book. For example, two methods of performing an operation are given and the pupil is told to state which is the better, and why; no hint is given to teacher or pupil; each must think. The teacher is directed to ascertain the business custom on various points, in his locality, and to act accordingly, a revelation to those of us who had to learn the Vermont Rule years before we ever set foot in the Green Mountain State.

Still another feature which makes us love the book for the enemies it will make, is the introduction of the simple equation where it belongs. To that eloquent but decreasing number of teachers who have protested against introducing algebra into arithmetic (as if there were any divid-

ing line) this will seem a sacrilege; but after all, is it not sound pedagogy, and are we not inevitably coming to it? It lets in the light; it clears up the mystery; it makes psychology and logic, instead of the freaks of history, the factors in the arrangement of the course, and it insists that the making of an easy thing hard is not *per se* commendable. The equation is introduced in the fifth grade, where it seems to belong, and thereafter it becomes a powerful instrument throughout the course.

But there is one thing which everyone will commend, namely, the work in oral arithmetic. This is introduced skillfully, and progressively, and continuously from the first day to the last. It is too much to ask that a teacher should prepare all of the oral work for the four years of the grammar school, and yet it is difficult to arrange a book so that the pupils shall refer to it when reciting, and yet not write down the answers to the oral problems in advance. This book seems to supply the need with entire success.

In one other respect the book is remarkable. It is up to date. Those who have much to do with the examination of text-books as they appear will appreciate the truth of the statement that this feature is really remarkable. Here is a text-book which, under exchange, speaks of postal and express money-orders, perhaps the most common instruments of exchange known to the majority of people. And this is only one of a considerable number of features that come under the same category.

Besides introducing algebraic forms where they belong, the work introduces metrical geometry where it belongs. This is done in a natural manner and to the extent that is demanded in common life. Moreover the child is still required to keep to accurate arithmetical forms in his mensuration. It is a luxury to see a book that not only preaches 2 x 3 sq. ft. instead of 2 ft. x 3 ft., but also practices it.

In the arrangement of the solutions the work is a model. It gives the numerical solution as a pupil is advised to arrange it; it then gives the formal solution, in numbered or lettered steps, thus covering the logical analysis; the teacher may call for either or both as the subject demands.

After such unusual praise it may be asked, "Has the book, then, no weak points?" Was there ever a book without them? Was there ever a book without some misprints, some questionable assertions, some things that would not please every critic? This book has them;

but they are few in number and are so much overshadowed by its excellencies that it would serve no good purpose to enter the limited field at this time, or to mar the pleasure of reviewing a book that is really superior, and that is destined to do a great deal to improve American education.

DAVID EUGENE SMITH

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Elements of Geometry, Plane and Solid. By JOHN MACNIE, A.M. Edited by Emerson C. White, American Book Co.

"WHAT reason for another geometry?" is the first thought when a new one appears, and too frequently the answer is: "No reason for this one." But such is not the case with the new *Elements of Geometry* in White's series. At least so it appears to one who has examined it rather critically and with the avowed intentions of discounting it wherever possible.

There is just now a decided inclination among active teachers of geometry to swing over to the extreme heuristic method, that is, to show the pupil little or nothing, in contrast with the plan of certain text-books in wide use, which tell him almost everything, and leave him no exercise of his own reason and constructive powers.

As a choice between these two extremes, the former is surely the better, and, if teachers were everywhere trained and experienced in this method of teaching, and if the time alloted to geometry in the schools could be extended sufficiently, then there would be no question about the treatment of this subject and the kind of text-book demanded. But, since neither of these conditions is fulfilled at the present, and since the necessary and sufficient guide-book for general use in heuristic teaching is yet to be written, therefore we welcome this text-book which seems to occupy legitimate ground between the two extremes. The book commends itself (1) in the successful way in which the pupil is taught how to reason, how to discover a method of proof, how to analyze a demonstration as it is given, how to gather up a series of results into one comprehensive statement; (2) in the remarkably appropriate sets of questions, problems, and theorems, which are so well graded, that the pupil will be stimulated by his own successes rather than discouraged with repeated failures, as is so often the case with poorly graded exercises; (3) in the arrangement of mat-

ter, and consequent simplification, in the first book, where perpendiculars and triangles are treated before parallels, thus avoiding the early use of the indirect method of demonstration. Some minor matters for criticism are (1) the copious use of primed letters, (2) the use of $\pm$ for "coincides with," when it has an established meaning of "not equal to," (3) the failure to use *oblique* triangles or irregular polygons in theorems of general nature, which, indeed, is all the more apparent since the instances are exceptions to the usual good plan elsewhere, and (4) the occasional failure to group families of theorems together in one statement, for instance, all those theorems relating to measurement of angles formed by two lines drawn from a point within, on or outside a circumference, all of which are measured by one-half the sum of the two interrupted arcs. It is a great advantage to a student to gain this comprehensive method of grouping sets of theorems. This again is an exceptional omission, as such groupings are made elsewhere, and ought to be in this instance.

H. E. SLAUGHT

UNIVERSITY OF CHICAGO

NOTES

THE Alpha chapter of the Phi Beta Kappa society of the state of Iowa has been organized in the State University of Iowa.

WESTFIELD, N. Y., has received a bequest of $100,000 from Hannah W. Patterson, of that village, for a free library, which will doubtless be incorporated by the regents at their next meeting.

THE Trustees of the Roxbury Latin School have adopted the Harvard custom of granting their teachers a Sabbatical Year, on half pay. Mr. D. O. S. Lowell is the first to take his turn and he will spend the school year 1896–7 abroad in study. We hope this action of the trustees will be followed by other boards.

HERKIMER, N. Y., has received from Judge Robert Earl and his wife the gift of their residence for a free public library. The library was formally opened January 2, 1896, with public exercises at the Opera House, followed by a reception at the library. The gift, including 3000 volumes, is estimated at not less than $30,000.

AS STATE after state comes into line in the matter of abolishing, by legislation, the apparently useless form of "three days of grace," the question has been raised in many a mind as to the origin and supposed meaning of a custom which is now dying out in the march of social progress. The editor of *The Sunday School Times* takes up this subject editorially, in his issue of February 15, and shows that the custom dates back not only to early English days, but to the very infancy of the world, and the time of primeval man.

IN answer to the question, "Give arguments for and against the single tax," the following has been received at the regent's office, Albany, N. Y., in an answer paper of the last examination:

"If there should be a single tax it would probably encourage matrimony, but even if all bachelors should become benedicts, even then the demand would not be nearly satisfied, and there are many who would rather pay the tax and retain their freedom. Of course it would be an additional source of income to the country. But there are many who are the only support of large families who cannot marry, and even if they wish to marry could not support their familes, and how can the country be prosperous if the people are impoverished."

GENERAL A. W. GREELY, of Arctic fame, begins, in the March *Ladies' Home Journal*, his articles on George Washington, which are expected to create considerable discussion. General Greely has read over 2000 of Wash-

ington's private letters, and he writes in a frank, unbiased way of the personal side of Washington. His first article will deal with the loves and courtships of Washington and his final marriage to the widow Custis. General Greely's articles are not likely to confirm the estimate of those who regard Washington in an ideal way. But they are truthful, and admirably portray the man as he was — in reality.

MESSRS. ALLYN & BACON have recently issued in "The Academy Series of English Classics," *Shakespeare's Julius Cæsar*, edited by Samuel Thurber. Those who know Mr. Thurber's work do not need to be assured that in this little volume he has displayed the same skill as a teacher and the same excellent taste as an editor that have characterized his previous work. He succeeds admirably in making his reader feel that he at any rate knows and loves his author, and this is always the prime requisite for teaching others to know and love him. The presswork of the book is admirable, the paper of good quality, and the price, 20 cents, makes it a marvel of cheapness.

TO THE general public Professor L. H. Butcher, of the University of Edinburgh, is best known as the joint author with Andrew Lang of what is perhaps, all in all, the best prose version of the Odyssey. His recent volume, *Aristotle's Theory of Poetry and Fine Art*, affords a new example of his exceptional skill as a translator. It is an outgrowth of the chapters relating to the poetics in an earlier work entitled "Some Aspects of the Greek Genius." The first part of the present volume (pp. 6–105) consists of a translation of the poetics together with a critical text, which is printed on alternate pages with the translation. Following this part of the work in a series of eleven chapters (pp. 107–378) Professor Butcher discusses the main points of Aristotle's æsthetic theory as they must be interpreted in the light of his other works. To those who are acquainted with the wide range of Professor Butcher's scholarship, this work will need no commendation; it appeals equally to the Greek scholar and the student of literature, and for the latter would perform a useful office if it served only to correct some of the popular conceptions of Aristotle's phrases. The book is published by Macmillan & Co., in an exceptionally attractive style. Price $3.25.

NOT enough teachers fully appreciate the value of the published proceedings of the National Educational Association. Those who attend the meetings are frequently annoyed by the impossibility of hearing all, or even one-fourth of the papers delivered. But could one hear all, it would be only to forget most. With the comfortable knowledge that everything will in due time — sometimes it seems, it is true, an undue time — be published in full, we can at the meeting spend a large part of the time hobnobbing with old friends with a clear conscience. When the report does come out, after many days, for the labor of putting it through the press is tremendous, it makes the best edited and most valuable educational publication of the year, — a model for all sim-

ilar publications, the pride of American schoolmasters. The occasion draws out the best there is in our best men, and the latest best. For the newest thought on all educational topics consult the Proceedings. But to review such a publication is manifestly a very difficult task. Each of many hundreds of papers would have to be reviewed separately. The present volume includes an unusually large number of important papers and discussions: the full report of the Committee of Fifteen on Elementary Schools and the discussions at the Cleveland meeting; and also the papers read on the opening days of the Educational Congress at the Atlanta Exposition. Those who are not members of the N. E. A. may obtain the volume from Secretary Irwin Shepard, Winona, Minn.

THE Third Annual Conference of Teachers of Chemistry met in the Kent Chemical Laboratory, University of Chicago, on December 30 and 31, 1895. The most important feature of the meeting was the report of the committee appointed at the meeting of the conference on December 31, 1894, to formulate the reasons for the following resolution: "*Resolved*, That in the opinion of this conference, physics should precede chemistry in the high school curriculum." This report was as follows: "Chemistry is a branch of the study of the relations of matter and energy and should, therefore, be preceded by the more general study of the subject which is undertaken by physics. In chemistry we deal with various forms of matter and a knowledge of the physical properties of gases liquids and solids, acquired before beginning chemical work, is essential in studying their chemical behavior. Transformations of energy accompany all forms of chemical action, and the student should approach the study with a clear understanding of the fundamental law of such transformations as embodied in the doctrine of the conservation of energy. The theory of electrolytic dissociations, without which such subjects as that of double decomposition cannot be understood, presupposes an elementary knowledge of electricity. The phenomena of physics lie nearer to everyday experience than do those of chemistry, and in teaching any subject we should pass from the known to the unknown by as simple and easy stages as is possible. It is true that some topics in physics cannot be understood without a knowledge of chemistry, but it is evident that the converse statement has greater weight in fixing the proper order of studies. The most serious objection which has been raised is the practical one that physics should be placed late in the course in order to secure the proper preparation in mathematics. Two solutions of the problem are possible. Either the instruction in mathematics may be pushed farther back in the course or the time devoted to physics may be divided, and the fuller discussion of topics requiring mathematical treatment given later. In our opinion either course is better than that violent reversal of the order of things which places chemistry before physics. In conclusion we wish to emphasize the fact that physics is as essential a preparation for chemistry as

algebra and geometry are for physics." Mendelejeff's periodic law, its place and its function in an elementary (say one year's course) in chemistry, was also considered. It was the sense of the conference that an elementary treatment of the subject towards the middle or the end of the course is of decided advantage. As to the extent to which physical chemistry should be introduced into a college course in general chemistry, it was the opinion of many present, that the recent theories of solution, the new methods for the determination of molecular weights, and the conception of dissociation in its ordinary sense, as well as by electrolytic and by hydrolytic dissociation, could properly be introduced into such a course. The conference will meet again next year at the same time and place.

NEXT September there will open in Chicago a new school of the first rank, whether we consider its endowment — a million six hundred thousand — its opportunity, the whole west side of that expanded and expanding city, or its plans, comprehensive, wise and in many respects unique. The temptation to make of the Lewis Institute a mere manual training or trade school was strong at the outset, and seemed for a time likely to prevail. But close study of the situation convinced the director, George N. Carman, and those associated with him, that the school had a larger mission. Without abandoning the manual training idea, they have subordinated it to a comprehensive scheme of complete education. The board of trustees is but three in number. They have erected a board of managers, who govern educational affairs. Members of the board are Director Carman, President Harper of the University of Chicago, and Superintendent Albert G. Lane of the Chicago public schools. This recognition of expert educationists, as such, is as unique as it is encouraging. Doubtless the most generally interesting feature of the school is the programme of studies. From advance sheets of the first circular we are able to quote the following: "This outline is in some respects an innovation on school programmes; attention is therefore called to its main characteristics and the considerations that have led to its adoption. It provides for a school day of six hours, from 9 A.M. till 4 P.M., with an intermission of one hour at noon for luncheon and recreation. A student taking full work will have four studies, with a daily exercise in each study. Preparation for two of these daily exercises will be made at home, preparation for the other two, in school under the direction of the teacher for whom preparation is being made; the two studies that are prepared in school one day will be prepared at home next day and *vice versa*. The four lines of study which make up the day's work are of such a distinct character, and require such different methods of preparation, as to prevent monotony, make a healthful variety of work, and lead to the harmonious and symmetrical development of the students. In each study there is a time for teaching, as well as a time for hearing recitations, a time when the teacher by working with his pupils may show them how to work effectively, a time when helping is made more prominent than testing.

This does not mean that the teacher does the work for his students, but rather that he shows them how to do it for themselves. The students meet their teacher in his class room, library, laboratory, or workshop, which is equipped with such appliances, in the way of books, apparatus, and tools, as will enable him to make his teaching most effective, and to furnish his students with whatever they may need for the successful preparation of their lessons. In a word, the laboratory method of teaching is applied to all subjects of study. This method requires that much of the work of the students be done at the school, under the direction of their teachers, and this is the reason why provision is made, in each study, for two hour periods two or three days in the week. What is most distinctive of the laboratory method is that the students work out their problems for themselves, under the guidance of the teacher, who gives such directions as may be necessary, that their manipulations may be skillful, their observations accurate, and their inferences logical. Subsequently the teacher tests the work of his students by determining their ability to give intelligent expression to what they have done, and seen, and reasoned out for themselves. The text-book is but an aid to the teacher in giving direction to the work of the student. The maximum number of students in any class will be twenty-five, so that each student will receive such individual instruction as he needs, and will be tested each day as to the faithfulness with which he has prepared the work assigned." This plan is so novel as to invite close attention to its working. It is a long step toward carrying the principle of laboratory work into all branches of school work.

An interesting pamphlet is "Student Slang," by Willard C. Gore, of the University of Michigan. The work was done by students of the university as a result of "original investigation," *i. e*, observation of the slang used by the "other fellows." The definitions are serious philological efforts, *e. g.*, Let her go Gallagher, "an expression signifying readiness to proceed." The editor has entertaining notes on why should this or that expression be regarded as slang? Is this slang local? Transitoriness of slang; slang a sign of intimacy; the standard of slang; and slang constructive and slang destructive. "Much of the older slang," to quote a bit, "was largely due to the need felt by thieves, tramps and vagabonds for a secret language; to them it was obviously a practical need. With us, however, a secret language is no longer a practical need, but rather an æsthetic survival. Some of us like to play with secrecy. This liking is especially characteristic of youth and childhood. Children are very fond of getting off in the corner and telling each other 'secrets,' the substance of which may not be of very much interest, but which imply a high state of intimacy. In much the same way, unfamiliar slang expressions imply a high state of intimacy on the part of those who use them and understand them." It might not be without interest to undertake a study of slang in high schools. The very fact of making such a study would call pupils' attention to the matter, and probably exert a good effect on the propagation of the slang germ.

NEW PUBLICATIONS

PEDAGOGY AND PHILOSOPHY

Regents' Bulletin. No. 29. August 1894. Extension No. 8. Summer Schools. Size 7 x 9½ in.; pp. 83. Price 10 cents. Albany: University of the State of New York.

Teaching in Three Continents. Personal Notes on the Educational Systems of the World. By W. Catton Grasby. Size 5 x 7¼ in.; pp. xv.+344. Price $1.50. C. W. Bardeen.

Omaha Public Schools. Annual Report of the Board of Education for the Year ending June 30, 1895. Sixe 6 x 8½ in.; pp. 143. Omaha: American Publishing Co.

Inductive Logic. By Wm. G. Ballantine, President of Oberlin College, Size 5 x 7½ in.; pp. viii.+174. Price 90 cents. Ginn & Co.

National Educational Association. Journal of Proceedings and Addresses. Session of the year 1895, held at Denver, Colorado, Published by the Association. Size 6½ x 9½ in.; pp. viii.+1102.

The Number Concept. Its Origin and Development. By Levi Leonard Conant, Ph.D., Associate Professor of Mathematics in the Worcester Polytechnic Institute. Size 5¼ x 8 in.; vi.+218. Price $2. Macmillan & Co.

The Art of Putting Questions. By W. T. Young. A new edition, revised by C. W. Bardeen. Size 5 x 6¾ in.; pp. 65. Price 15 cents. C. W. Bardeen.

Old Stories Retold. With 59 Original Illustrations. By Paul Binner, Principal Day School for Deaf Mutes, Milwaukee, Wis. Size 5¾ x 7 in.; pp. 64. Price 25 cents. C. W. Bardeen.

The Child and Childhood in Folk-Thought (The Child in Primitive Culture). By Alexander Francis Chamberlain, M.A., Ph.D. Size 6 x 8½ in.; pp. x.+464. Price $3. Macmillan & Co.

GREEK AND LATIN LANGUAGES AND LITERATURES

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